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An Address
ON
THE MODERN TREATMENT OF PULMONARY CONSUMPTION.

Delivered before the Hunterian Society of St. George's Hospital on Nov. 24th, 1901,

BY ARTHUR LATHAM, M.A., M.D. OXON., M.A. CANTAB.,

ASSISTANT PHYSICIAN TO THE HOSPITAL; ASSISTANT PHYSICIAN TO THE BROMPTON HOSPITAL FOR CONSUMPTION; VICE-PRESIDENT OF THE SOCIETY.

MR. PRESIDENT AND GENTLEMEN,—The subject which we have to discuss to-night is of enormous importance, as everyone must realise who grasps the facts that at least one individual out of every 10 dies from this disease, that among the working classes the proportion of fatal cases is even higher, and that in 1897 there were over 50,000 deaths from consumption in England alone. During the last century our knowledge of the pathology of the disease has made much progress. If we turn to the teaching of the great physician, Dr. Robert Graves,[1] we find the following: "Might not tubercles have been originally fluid and might not the change they undergo be from a soft into a consolidated mass? I have seen this passage of fluid scrofulous pus into solid matter beautifully exemplified in a case of psoas abscess: the neighbouring lymphatics were loaded with pus; in the lymphatic glands to which it was next carried it was much thicker; in those at a greater distance it was of the consistence of curd, and when its fluid particles had been still more completely absorbed in more distant fluids it was found to be as solid as any yellow tubercle. May it not happen that many of these yellow tubercles—and this is the opinion of Cruveilhier and others who have written on this subject since Laennec—at their commencement consist wholly of depositions of scrofulous pus in the tissue of the lungs?" This extract alone is sufficient to show us how very different are the views of the present time on the pathology of consumption from what passed muster 60 years ago. In addition to this improvement in our pathological knowledge there is the great probability that, owing to the wide incidence of the disease, human beings have become less susceptible to tuberculous infection and that the tubercle bacilli have at the same time followed the natural law and become less virulent. We have these two great advantages over our predecessors—more thorough knowledge, and probably a bacillus, in the great majority of cases, of diminished virulence. In addition we know now that if we see the patients in the early stages of consumption we can arrest the progress of the disease with almost absolute certainty, and that in many instances disease which would have been regarded 10 years ago as hopeless can be permanently arrested, whilst in nearly all cases some improvement can be produced.

If we look at the treatment of pulmonary consumption in early days we find, for example, that Pliny[2] enumerates a variety of specifics for consumption with an almost superstitious credulity. After mentioning the pectoral virtues of gum ammoniac, he observes "that woods affording an abundance of resinous effluvia are very beneficial to the consumptive, even more so than a voyage to Egypt, or a course of milk in the mountains." He praises the juice of plantains, and the linctus of betony with honey. He says that "in Achaia a wolf's liver infused in wine, the lard of a lean sow fed on vegetables, and asses' flesh, together with a broth, are used for curing consumption, as are the smoke of dry cow dung drawn through a reed, and the tips of bullocks' horns burnt and powdered and mixed with honey. Goats' fat in gruel or with honey and water and a little rice is recommended by many." This very respectable author further says "consumption in the last stages has been cured by the fat of a mountain goat taken in milk. Others employ the lungs of a stag, with straight horns, smoke dried and triturated with wine." If we turn to Paracelsus,[3] who lived in the sixteenth century, we find that "the diet is of the greatest consequence, and should consist of liquorice, polypody, lentils, raisins, lettuces, radishes, cabbages, beet, and other vegetables. An ointment is prescribed for universal friction morning and evening, and the powder diacorallorum, containing crude antimony and crocus marsh, is to be given in pretty large doses until the spongy froth in the urine disappears, and an ointment chiefly composed of the fat of field mice is recommended as an experiment with the same limitations. The patient is also to try the use of a bath containing a decoction of herbs with sulphur. When the disease has been once cured it is said not to return.

Such treatment at the present day sounds ridiculous, but is it more ridiculous than what obtains in many instances at the present time? It is not an uncommon experience to find some unfortunate workman who lives continuously in a fœtid atmosphere and eats an indifferent amount of coarse and unnutritious food taking all of the following medicines during the 24 hours:—A mixture of cod-liver oil with malt, to supply, so it is said, the place of the "fast ebbing vital oil"; a mixture of gentian and sodium bicarbonate to assist the jaded appetite; an ether mixture to strengthen the action of the heart when the patient feels more than usually ill; some form of lozenge to allay the cough during the daytime, together with a new-fangled antiseptic as an inhalation; and some pernicious preparation of opium to bring sleep at night. Many of these remedies are of service in themselves, but can such indiscriminate drugging be of any value to a consumptive patient? Is such treatment any less ridiculous than the whimsical mockery of medical science that I have read from Pliny and Paracelsus?

Amongst the remedies which have been vaunted as specifics for the cure of consumption during the last 50 or 60 years I would mention curls made of blotting-paper, impregnated with ammonium chloride and inserted into the nostrils, injections of sulphuretted hydrogen into the rectum, repeated bleedings, debilitating drugs such as antimony, the grape cure, the use of the serum of goats and asses, compressed air and hot air—a truly terrible record. Finally, we have what is in vogue so much at the present day, the use of all sorts of antiseptics, the result of this in many instances being, as Dr. P. W. Latham observed in his Harveian oration, that "the patient rather than the bacillus succumbs."[4] It has been asserted that each of these remedies has produced numerous cures of tuberculosis in all its stages. It seems, however, that the only deduction we can draw from the records of such treatment is that pulmonary consumption must indeed be a curable affection, when it withstands such treatment as I have mentioned. In the words of the late Wilson Fox,[5] it is still unfortunately true, that "no medicinal remedy has, as yet, been found which can be regarded as a specific for tuberculosis."

During the time that all these so-called specifics have been lauded to the skies in the treatment of this disease men have not been wanting who exercised their common-sense and came to the conclusion that the essential thing was to place the patient under such conditions that his nutrition would be improved and he himself in a position to fight the disease. In 1840 George Bodington wrote an essay on the cure of pulmonary consumption on principles "natural, rational, and successful," in which he insisted on the importance of a generous diet and a constant supply of pure air. He further said that "cold is never too intense for a consumptive patient, the apartment should be kept well aired, so that it should resemble the pure air of outside, pure air being used in the treatment as much as possible." This book met with much bitter and fierce opposition and eventually the disapproval of his methods became so universal that patients were driven from his sanatorium, which was the first of its kind in the world, and where, several years previously to the publication of his essay, he had practised his principles and effected many cures. In 1855 Dr. Henry Mac Cormac, the father of the late Sir William Mac Cormac, published a book on somewhat similar lines and as a result had to bear every kind of persecution to which a man in his position can be subjected. In 1861 he read before the Royal Medical and Chirurgical Society a paper on "The Absolute Preventibility of Consumption," in which he advocated what are now established principles. The

[1] Clinical Lectures, New Sydenham Society, 1884, vol. ii., p. 109.
[2] A Practical and Historical Treatise on Consumptive Diseases, by Thomas Young, M.D., F.R.S., 1815, p. 128.
[3] Ibid., p. 154.
[4] Harveian Oration, 1883.
[5] Diseases of the Lungs and Pleura.

members of the Royal Medical and Chirurgical Society refused to pass the usual vote of thanks to Dr. Mac Cormac, because they thought that the paper was written by a monomaniac. Dr. J. Hughes Bennett a few years later supported Dr. Mac Cormac, and the following is an extract from his book. "The diet must be one of a nutritious kind, consisting of a good proportion of food of sufficient quality and quantity. ..... Fresh air and good ventilation are of essential importance. ..... Exercise is the strongest stimulus to appetite." Again in 1864 Dr. P. W. Latham[6] advocated the necessity of a generous diet, of successful and continuous ventilation, and of regular exercise in the open air. In 1871 Niemeyer[7] wrote: "A patient should be placed, if possible, under influences calculated to invigorate the constitution, and extinguish the morbid tendency. ..... A proper supply of fresh air is of equal importance to a proper regulation of diet ..... The patient must avoid smoke or dust, air that is too hot or too cold, and must avoid great efforts in running, singing, dancing, and the like. ..... The real value of climate is that the patient must spend the day in the open air. The patient must always live circumspectly and remain under the charge of an intelligent and strict physician."

We see from these extracts that many were very near the truth, but it was not until Hermann Brehmer—who started a sanatorium a few years after the paper of George Bodington appeared—Otto Walther, and others, had perfected the details of the treatment and the marvellous results which they had obtained had become known that medical men began to understand the benefit and value of this treatment. The theory on which this so-called open-air treatment is based is common sense. To fight any disease you must place your patient as far as possible under ideal conditions as regards food and air and avoidance of fatigue. This is, or ought to be, a truism. You have only to look at wild beasts—such as an imported tiger—which are placed under unnatural conditions, to see how rife tuberculosis becomes in animals which in their wild state are habitually free from this disease. Climate, however, is not everything. For instance, in the Blood Indian Reserve of the Canadian North-Western Territories,[8] in a population of about 2000 there were, excluding diseases of infancy, 127 deaths from pulmonary consumption during six years, or 23 per cent. of the total rate, and that in a tribe occupying one of the finest climates of the world, at the foothills of the Rocky Mountains. In fact, we have learnt that any climate will do for the sanatorium treatment of consumption, provided that the air is pure and bracing.

What, then, are the principles of this sanatorium treatment? There is only one principle—viz., to try to increase the resistance of the body, so as to render the tubercle bacilli innocuous. For this purpose the essentials are: (1) A continuous supply of fresh air with no unnatural changes of temperature and the avoidance of all sources of irritation from dust and the like; (2) good nourishing food in sufficient quantity to establish and to maintain the normal body-weight of the patient; (3) an absolutely regular life, so arranged that neither the lungs nor any other portion of the body is allowed to be put to any strain; and (4) graduated exercise without strain.

1. With regard to the first—viz., supply of fresh air—naturally all the usual regulations for the avoidance of bacillary infection, such as the character and furniture of a room, cleansing of knives and forks, and the use of sputum flasks must be carried out. The patient must always live in the fresh air and must not be exposed to any contrast of temperature such as going from a hot room into a cold one. Day and night he must be kept in an atmosphere at the temperature, practically speaking, of the outside air. In this way the body is hardened and colds are avoided. *There are no exacerbations of the disease and consequently the damaged tissue has time to heal.* The air must be free from dust and any deleterious products; in fact, it must be pure. The patient when in his room should be alone; there must be no company and his windows should be widely open.

2. The amount of food which is given at efficient sanatoriums has been greatly exaggerated. It is, however, true that at certain sanatoriums over-feeding is practised, and often with injurious results. The amount which should be given is a little more than the amount taken by a healthy person, but this amount must be taken whatever the condition, however debilitated the patient may be, however high the temperature, and even if a couple of hours have to be spent over a meal. It has been shown by Dr. Walther that the readiest and best way of reducing the fever of advanced consumption is by increasing the amount of solid nourishment. In those cases in which the patient cannot take the food he is often enabled to do so by the administration of alcohol. Three[9] meals a day are taken at intervals of five hours and the food is of all kinds, but special care is taken that it is the best of its kind and that it consists largely of fatty forms. It is essential that it should be well cooked and served up in as attractive a fashion as possible, well-made fat-containing sauces being an important adjunct to the treatment. Each patient is helped by, and eats his food under the eyes of, the physician in charge. No food or drink is allowed between meals. When the patient first comes to the sanatorium he is given at each of his three meals one pint of milk and he continues to take the milk until he has regained his normal body-weight. When the proper weight has been reached the amount of milk is reduced and the patient is allowed beer or wine.

3. Every form of fatigue must be avoided and no patient is allowed to do anything which has any tendency to raise the temperature. The exercise consists of very slow walking uphill for a short distance, varying from a few yards to a mile, or in the more healthy cases to four or five miles, a prolonged rest, and then a gradual return downhill by another path. This gradual uphill exercise has two advantages, in that it is easily regulated and, secondly, because it acts as a heart tonic. Patients are not allowed to walk fast or to run; if they do there is a greater rate of respiration and more strain is thrown upon the lungs, whilst the body temperature is raised. No excitement which is found to raise the temperature is allowed. For instance, few patients are allowed to play the piano, or chess, or cards, whilst patients who are kept in bed for various reasons are not permitted to see anyone except the medical attendant. This necessity of avoiding excitement is due to the effect it has upon the temperature; it is a vital part of the treatment and must be insisted upon in all but the very earliest cases; whilst at sanatoriums it is found best that all patients should be treated alike in this manner, as any relaxation in the case of particular patients tends to relax the necessary discipline and may lead to unpleasantness. I have laid stress upon this point, as many recent writers have expressed strong views on the absence of amusements in sanatoriums, showing that they have entirely failed to appreciate one of the important details of the treatment.

4. Exercise is prescribed when the condition of the patient permits. There are no absolute rules, in fact such rules as exist are more frequently broken than followed. The personal factor of each individual has to be carefully considered in the matter of exercise as in all questions connected with this form of treatment. Exercise, in the majority of instances, may be permitted when the temperature of the rectum taken before rising in the morning has not been higher than 98° for a week. The amount of exercise is so regulated that amongst other things the temperature taken after the return from a walk is not higher than 100°. If the temperature is higher than 100°, or if it fail to sink to normal within 20 minutes, or if there is any symptom of exhaustion, the amount of exercise has been too great and a shorter walk is prescribed on the following day, and so on until the patient is enabled to return to his room with the temperature lower than 100°. One of the few conditions for which a patient is kept in bed is when the temperature is habitually above 98° in the morning before rising. A patient may be kept on his sofa-chair if the temperature is not distinctly below 98·4° before rising or if the exertion of a slight walk is enough to cause a rise of temperature. This, in many instances, however, is too rigid a rule. We may find that a patient with a morning temperature of 99° and an evening temperature of 102° who fails to make any progress whilst kept at rest loses his fever and becomes in every way stronger when permitted to take gentle exercise. Exercise should always be prescribed when it does no harm. We can only find out whether it is likely to lead to beneficial results or not by carefully experimenting on the individual patient.

So much for the principles. I will now describe a day at Nordrach where the treatment is carried out with excellent results. The rooms of the patient are heated with warm-water pipes or by electricity, a temperature very slightly

[6] On the Early Symptoms of Phthisis.
[7] Practical Medicine, vol. i.
[8] Osler: The Principles and Practice of Medicine.

[9] In some sanatoriums four or more meals are given at shorter intervals.

above that of the outside air being constantly maintained during the night. The patient is called at 7 o'clock in the morning and the windows of his room are then closed in order that he may not catch cold whilst dressing. He takes his temperature and rises at the latest at 7.30 and then has a shower-bath at a temperature to suit himself. On completion of his dressing he must open the windows. Breakfast, at 8 o'clock, consists of tea or coffee, one pint of milk, bread-and-butter in large amounts, jam or honey, and a dish of cold meat. Directly breakfast is finished, or at 8.30, the patient starts out on his morning walk, the length of which is graduated according to his condition—it may be only a few yards. He walks deliberately and slowly until he has arrived at his destination and waits there resting in the fresh air until it is time for him to start home again. At 11.45 o'clock he must be in his room in which he will find the windows have been shut and he must take his temperature. In five or 10 minutes he must open his windows, which must remain open until he leaves the room. Between 12 and 1 o'clock he must lie resting at full length on a sofa-chair. At 1 o'clock he leaves his room and has luncheon with his fellow patients. This is the chief meal of the day and may consist, to give an example, of one pint of milk, hot stewed tongue, asparagus, a large plateful of potatoes, hot veal, more potatoes and salad, pastry and cream, bread, butter, and coffee. The patient starts not later than 2.45 o'clock on his slow afternoon walk which is the shorter walk of the day. He rests as before when he arrives at his destination and slowly returns so that he reaches home at 5.30. He again takes his temperature, opens the windows, which have been closed by a servant shortly before his return, and rests until dinner-time. At 7 o'clock he goes to dinner, which consists of one pint of milk, bread-and-butter in large quantities, one course of hot meat and one of cold, for example, hot pork and potatoes, and cold smoked salmon. A cup of tea after dinner is optional. After dinner the patients may spend half an hour or more in the dining-room, in which the windows are kept widely open. They retire to their own rooms by 9 o'clock and open their windows which have been closed shortly before they get there. They are in bed between 9.30 and 10 o'clock and should take their temperature after they have rested for a quarter of a hour.

Smoking is allowed in the open air so long as it does not produce coughing or is not indulged in to excess; it is strictly prohibited in the patient's room. Patients are persuaded to avoid attempts at coughing; they are taught that every cough avoided is something spared to the lung and they soon find that they can keep the cough in check.

In addition I must mention that Dr. Walther, or Dr. Weltz, sees every patient three times a day, once before breakfast, and immediately after the morning and afternoon walk, and judges from the general condition of the patient and from his temperature whether he is taking too much exercise or whether he may safely be allowed to continue the same amount or take more. Further, every week each patient is weighed—a process which gives him something to look forward to and establishes a healthy rivalry. Every fortnight his chest is examined and every month the sputum is tested.

It is impossible in a paper of this kind to do more than sketch matters, but I have said enough to show you that the chief thing is detail, detail in carrying out the great principle and constant supervision by a competent and strict, although at the same time thoughtful and encouraging, physician. One further point about this treatment is the feeling of hope and faith which is inspired in every patient's heart as he watches the gradual improvement of cases worse than his own. The confidence engendered in this way in the sanatorium physician has a most beneficial effect.

What are the results of this treatment? In the first place men who have failed to regain their health after years of trial at various climatic resorts go to properly conducted sanatoriums and have their diseases arrested. Symptoms such as indigestion, cough, night sweats often disappear like magic in a few weeks, or as soon as the nutrition of the body begins to approach the normal. The results gained by treatment at Goerbendorf by Brehmer from 1876 to 1886 were as follows: In stage I., cured 27·8 per cent., almost cured 31 per cent; in stage II., cured 6·8 per cent., almost cured 14·6 per cent.; and in stage III., cured 4 per cent., almost cured 2·3 per cent. At Nordrach the number of patients in whom the disease has undergone permanent arrest amounts to 30 per cent. of those treated (Knopf), whilst all but 5 per cent. obtain considerable relief. These Nordrach statistics are the more remarkable when you realise that most sanatoriums prefer early cases and often limit their admissions to this class, but that Dr. Walther takes them in any stage and, in fact, prefers the graver ones. Most patients put on from two to three pounds per week until their proper weight is established. I will give you a typical example of a case treated by Dr. Walther and graphically related, of himself, by Dr. R. Mander Smyth,[10] who, with Dr. H. G. Felkin, has charge of a sanatorium at Linford, near Ringwood. Dr. Smyth tells how he contracted consumption, how rapidly extending excavation set in in the upper portions of the right lung, and how he arrived at Nordrach in a prostrate and apparently dying condition: "My friends were sent away and I saw only the doctor and a nurse, who was enjoined never to let me talk. The windows of my room, constituting nearly the whole of one side of it, were open night and day, and a strong draught played through them, breathing of the pine-clad slopes. Once a beautiful bird perched upon the window-sill and whistled a few cheery notes, a heaven-sent messenger of better fortune. I was occasionally bombarded by summer hailstorms which swept up the valley, and at times in the winter waked up to find an inch of snow had silently drifted upon my bed. But far more important than fresh air were the meals. Three a day—at eight, one, and seven—they came with pitiless regularity. A plate of pork and potatoes, a leg and wing of a chicken, salad and more potatoes, and to finish, a large wedge of very solid pastry, would constitute a typical dinner; not more, indeed, than a man of hearty appetite would consume, but to the feeble invalid a Gargantuan repast. Moreover, *mirabile dictu*, I was persuaded by the magic of the doctor's personality to eat it all. Once only did exhausted nature absolutely rebel. It was on August 7th, when I had lost half a pound in weight. Then came the doctor, serious and impressive, and plainly told me that if I did not eat I should assuredly die. The mental stimulus was exactly what was needed; and let that be the answer to those who, without knowing the real man, cavil at what they call the 'Prussian' method of treating phthisis. It was to the invalid like the encouragement of the general to his men, reeling from the enemy's fire. The next week, on August 12th, the temperature, which had been gradually subsiding, came below normal for the first time for four and a half months of illness. Coincidently I had gained nearly five pounds weight. In five weeks I gained 22 English pounds. In spite of this improvement of the temperature I was still kept in bed, only sallying forth on Saturday morning to be weighed, when I was wont to compare notes with a young Dutchman who was in a similar plight, and who ultimately recovered. We must have presented a comical spectacle tottering back to our rooms, each supporting himself by the wall of the corridor. It was not until the temperature had been normal for 12 days (August 25th) that I was allowed to take a walk. This meant 50 yards on the flat, resting the remainder of the day. The next day I increased my walk by 40 yards or so, and thus, cautiously creeping further every day with excessive care I was able in some three weeks to walk half a mile up a gentle incline without undue fatigue. But it was not until Sept. 28th, or a month after I came out of the house, that I was permitted to join my comrades in the dining hall, and even then I often spent two to three hours in eating my dinner. Speech was somewhat rusty, for my isolation from society was a matter of nearly six months. Improvement at length went on rapidly. I went to bed at night and woke feeling a fresh wave of vitality come over me. My daily walk became a recreation and an interest, and the magnificent views of the Nordrachthal, and the thousand-and-one interesting objects that nature has lavished in that valley were a never-ending source of satisfaction. In October no bacilli could be found in my sputum. At the end of November I was able to climb 1500 feet; and on Dec. 11th a walk of 14 miles, involving 3000 feet of climbing over rough mountain ways, was accomplished. Later on came the snow, and with it the fascinating delights of coasting down the snowy timber roads, an amusement I had reason to regret. About the middle of January, 1897, I began to feel languid and easily tired after walking, the temperature was not quite so satisfactory at night, cough and expectoration increased and in February bacilli were again found in the sputum. This was what is popularly called a 'chill,' an expression as utterly misleading as it is unscientific. It was

[10] Practitioner, July, 1901.

in truth a relapse, which, slight as were the symptoms, cost me five months of extra treatment. All this trouble was caused by three days of too vigorous tobogganing, and was as purely the result of mechanical strain, not of exposure, as would be the same thing in a tuberculous joint from too free exercise of it. Under the keen supervision to which I was subjected, however, the bacilli had little chance. After a week's rest on a couch I again began to walk very short distances, gradually increasing as I became stronger; and my weight, which had remained stationary during the winter, began to mount up. By the middle of June I was again walking 10 or 12 miles each morning, and in July, 1897, exactly a year after my arrival at Nordrach, I returned to England, where I have resided ever since. My weight on leaving Germany was 13 stones 10 pounds, a gain of three stones."

The striking effect of the treatment in this case is excellently shown by the reproductions of photographs which accompany the article. Now Dr. Walther's sanatorium is not the only one, though it has such a deservedly high reputation; there are many sanatoriums in England, presided over by highly skilled men and women, which are thoroughly trustworthy. Anyone living in England should attempt to be cured under his own climatic conditions, the conditions in which he must eventually live, and these he finds at Nordrach and in his own country. No climate within certain limits matters so long as the air is pure and bracing; no variation in the temperature of the outside air matters so long as it is not absolutely sudden. The most important thing in sanatorium treatment is the character of the man who carries it out. Many so-called sanatoriums both in England and in Europe are conducted on the basis of a hotel and do much to bring the treatment into disrepute. The first information I want about any particular sanatorium is the character of the man at the head of it and whether he has had practical and thorough teaching in the Nordrach methods. The man in command must be an absolute autocrat and must be strong enough to send away those patients who do not fulfil his directions in the spirit and in the letter. It is a matter of comparative indifference where the sanatorium is situated, but in my opinion it is folly for English people in whom the disease has made material progress, who are not possessed of ample means and who have to make their living at home, to go to so-called health resorts abroad where they will become accustomed to climatic conditions quite unlike our own and where they have many temptations to stray from the true path of health. Whilst I am on this point I would express my emphatic disapproval of the practice of sending patients in search of health on long sea voyages in steamships unless these are especially adapted for the purpose, as the conditions obtaining here, the stuffy air under deck, the great variations of temperature, and the like, are wholly incompatible with consumptive treatment.

How long must patients stay in a sanatorium? It is best that they should remain until all physical signs of active disease have gone, until no tubercle bacilli are found in the sputum, and until the inoculation test leads to no result. This happens on the average in from five to six months; it may in some cases take two years or even longer; whilst in selected cases of men or women who have sufficient character to carry on this treatment for themselves in all its details, two months may be sufficient to train them thoroughly and to place them in a position in which they can look after themselves. When a patient leaves a sanatorium he should be told that for at least two years he must continue the treatment as far as possible, that he must avoid all severe strain upon the respiratory or other organs such as bicycling and the like, and shun all places where a large number of people are gathered together, such as theatres, concert-rooms, and churches. This is an essential part of the treatment. A man whose disease is fortunately arrested must remember that he is still a weak vessel and liable to further infection or relapse, if he is not careful for some considerable time. He must not cry "the war is over," or he will find that tubercle bacilli, like the Boers, suddenly swoop down from their kopjes, with the result that an unfortunate incident occurs, if not absolute disaster. Patients who have had their disease arrested at a sanatorium are well advised if they have their chests thoroughly examined by a medical man at least once in every three months for several years.

What cases are ineligible for sanatorium treatment? Some sanatorium physicians take any class of case, however severe or apparently hopeless; patients are sent away only when after repeated efforts they cannot eat or when they get the persistent diarrhœa of intestinal tuberculosis. Experience has taught us, however, that in most cases where the amount of disease in both lungs is extensive no great or permanent benefit is obtained by sanatorium treatment and it is little short of cruelty to send such patients, many of whom are obviously dying, long journeys and away from their friends for a form of treatment which in the nature of things can prolong their life only for a very short time.

One word about drugs. In sanatorium treatment no drugs are used in the routine treatment of the disease, but complications or symptoms such as hæmoptysis, diarrhœa, and constipation are treated on the usual lines. Generally speaking, I may repeat here what I said in a lecture on the treatment of cough in consumption,[11] the principles which must guide you in giving drugs in this disease are: never give drugs until all other measures have failed, and then never without considering the question whether in treating any particular symptom you are not aggravating the disease either by disturbing the digestive capacity or in some other way.

Well, Mr. President and Gentlemen, I have said enough—and in doing so I am afraid I have strained your patience—to convince you of the pathetic position of one who, like myself, holds these views strongly and who is constantly seeing hospital patients afflicted with consumption. Week after week I see nearly 200 patients who cannot afford the conditions necessary to the successful treatment of their disease. In the majority of instances all I can do is to alleviate the symptoms and trust that, by convincing the patients of the absolute necessity there is for them to do everything in their power to improve their nutrition and general condition they will gradually overcome their disease. In a surprisingly large number—surprising in view of their surroundings—the disease is kept in check and in some cases it is arrested, but in the large majority we can do little more than watch these unfortunate people gradually become worse and die purely from want of money. Take, for example, the case of a man in an advanced stage of consumption working 16 hours a day in an underground bakery in an overheated atmosphere, with six children to support and unable to change his occupation; or that of a billiard-marker in a public-house, always in a smoky and fœtid atmosphere and exposed to constant temptations, what can be done for such cases? Our only answer under present conditions is, "Practically nothing." This, gentlemen, is a national disgrace and in this way the nation is losing every year thousands of lives and large sums of money. The only effectual remedy is, as Sir John Burdon Sanderson[12] has pointed out, the establishment of national sanatoriums on some insurance basis, such as is being done with success in Germany, combined with compulsory notification—not isolation—of tuberculous cases. We can only arrive at this by gradually educating public opinion to such a pitch that the legislature will be compelled to move in the matter, and it is for you, and such as you, to do all that lies in your power in your practice hereafter to carry conviction on this question to the minds of everyone with whom you may come into contact.

[11] Edinburgh Medical Journal, 1901.
[12] Brit. Med. Jour., 1901, vol. ii., p. 1.

REMARKS ON THE LIFE-HISTORY OF FILARIA BANCROFTI AND FILARIA IMMITIS.

BY LOUIS W. SAMBON, M.D. NAPLES.

UNDER the title, "Sul Ciclo Evolutivo della Filaria Bancrofti (Cobbold) e della Filaria Immitis (Leidy)"[1] ("Remarks on the Life-cycle of Filaria Bancrofti, Cobbold, and Filaria Immitis, Leidy"), Dr. Giovanni Noè describes more fully certain researches on the life-history of filaria immitis which he had already published together with Professor Grassi in the *Rendiconti della R. Accademia dei Lincei* on August 25th, 1900.

[1] Ricerche fatte nel Laboratorio di Anatomia normale della R. Università di Roma ed in altri Laboratori Biologici, vol. viii., fascicoli 3 e 4.

The mention of filaria Bancrofti in the title of Dr. Noè's paper is not on account of any new observations made by Professor Grassi or Dr. Noè on the development of this important parasite of man, as one would naturally imagine, but, apparently, only to enhance the value of the paper. In fact, Dr. Noè introduces his work with the following preface: "The subject I have been studying, under Professor Grassi's guidance, is certainly one of the most important problems that medical science has ever submitted to the investigations of zoology, because the presence of blood-filariæ in the body of man gives rise to fearful and incurable diseases against which all attempts at an efficient prophylaxis have hitherto been vain, for the mode of entrance of these nematodes into the human body was unknown. The Italian discovery now at last enables us to place the prophylaxis of filariasis on a solid base, indicating the mechanical prevention of mosquito-bites, suggested by malaria prophylaxis, as the best means of protecting man from this terrible scourge of tropical countries."

Dr. Noè's assertion that the mosquito propagation of filariasis has been discovered by Professor Grassi and himself or is an "Italian discovery," as he puts it, is, to say the least, surprising, and Professor Grassi should be the very last man to claim, on the analogy of filaria immitis, the merit of having established a scientific basis for the prophylaxis of filaria Bancrofti, seeing that he denied to Major R. Ross similar claims for the establishment of the scientific prophylaxis of malaria on the contention that Ross had only definitely proved the mosquito propagation of Hæmamœba relicta, a parasite of birds.

In a short historical sketch of the progress of investigations on the life-history of filaria Bancrofti, Dr. Noè mentions how Dr. P. Manson discovered in 1877 that certain mosquitoes acted as intermediary hosts to filaria Bancrofti, and he rightly ascribes Dr. Manson's hypothesis with regard to the conveyance of the metamorphosed larvæ to man to the erroneous notions entertained at that time by zoologists on the life-habits of mosquitoes. He also reports T. L. Bancroft's suggestion, made in 1889, as to the possible propagation of filariasis either by the ingestion of infected mosquitoes or through the instrumentality of their puncture. He takes opportunity to ascribe, again incorrectly, to Professor Grassi the discovery of the mosquito propagation of the malarial parasites of man and states that the researches of Major R. Ross on the transmission of hæmamœba relicta did not preclude the propagation of the parasites by means of air and water. Then he refers to a visit which Dr. Manson and I paid to Professor Grassi in 1900, but the purport of that visit is misrepresented both in Dr. Noè's paper and in the previous publication by Professor Grassi and Dr. Noè.

Firstly, Dr. Manson went to Rome to investigate on the possibility of carrying out a double experiment on the etiology and prophylaxis of malaria in the Roman Campagna; and, in fact, the experiment was successfully carried out by myself and Dr. G. C. Low on the following epidemic season. Secondly, Professor Grassi did not discover in Dr. Manson's specimens a filaria at its maximum stage of development within the head section of a mosquito and did not formulate thereat the hypothesis of the possible transmission of filariæ by means of mosquito-bites for the simple reason that Dr. Manson purposely brought his specimens from London to show Professor Grassi and others that filaria Bancrofti, after having reached a certain stage of development, migrated from the thoracic muscles of its intermediary host, most probably to reach the mouth parts of the insect and to be inoculated to the human definitive host during puncture, as is the case with the malaria parasites. The same specimens had been shown previously to the Fellows of the Royal Society in London; to Professor Blanchard in Paris; and to Professor Celli, Professor Marchiafava, Professor Dionisi, Professor Bignami, Professor Bastianelli, Dr. Piehn, and Dr. G. S. Brock in Rome. Dr. Noè states that Professor Grassi, lecturing in the following March on comparative anatomy in the University of Rome, mentioned the possibility of the transmission of certain filariæ by means of the bite of infected mosquitoes, but I fail to see the bearing of this remark on the claims of priority advanced by Professor Grassi and Dr. Noè. Soon after Major Ross's discovery of the mode of transmission of the hæmamœbidæ everyone at all conversant with the study of filariasis at once grasped the possible analogy. If mere statements of opinion were of any scientific value, I might well claim priority, because in an article on Ticks and Tick Fever, published in the *Journal of Tropical Medicine* in April, 1900, I stated quite positively that filaria Bancrofti was inoculated to man by infected mosquitoes. That statement was the expression of a firm conviction based chiefly on Dr. Manson's observations and on the analogy of the malaria hæmocytozoa, but it was premature and therefore regrettable.

During the visit aforementioned, Professor Grassi stated that he had found a filaria, so far undetermined, within the Malpighian tubes of anopheles maculipennis and, of course, he agreed with Dr. Manson on the possible transmission of these nematodes by means of the bite of their intermediary hosts. Next, a letter from Dr. Manson to Professor Grassi, announcing the finding of filaria Bancrofti between the labium and the mandibles in sections of artificially-infected mosquitoes, is dismissed with the most uncalled-for remark that Dr. Manson, the foremost authority on filariæ, had probably mistaken other nematodes for filariæ. However, says Dr. Noè, even allowing the correctness of Dr. Manson's observations, they do not prove the direct inoculation of filariæ from mosquito to man, because "the mosquitoes might deposit the filaria larvæ in the water while resting on its surface to drink or lay their eggs." Lastly, Dr. Noè discusses Dr. Low's paper on the result of sections made for Dr. Manson of artificially infected mosquitoes received from Bancroft and he accuses Dr. Low of having erroneously supposed the labium to be closed at its base while it is really a continuation of the lacunoma. From an examination of the drawings illustrating Dr. Low's paper Dr. Noè maintains that the filariæ described by Dr. Low as free were still inclosed within the labium, and he adds: "The filariæ have no perforating organ and are therefore unable to pierce the tough chitinous case of the labium." He further attempts to prove that both Dr. Manson and Dr. Low were very uncertain about the mosquito inoculation of filaria Bancrofti because Dr. Low entitled his paper "Probable Mode of Infection," and because Dr. Manson, in an article published in the *British Medical Journal* on Sept. 1st, 1900, says: "The subject of filariasis is by no means worked out," and remarks that "the filariæ may leave their insect host by some other channel than the proboscis."

Having thus settled to his own satisfaction that nothing was proved as to the transmission of filariæ from intermediary to definitive host previously to his own researches and to those of Professor Grassi, Dr. Noè passes to consider the history of filaria immitis. He mentions that Calandruccio, in 1892, discovered certain filariæ in the stomach of a mosquito and supposed them to be the larvæ of filaria immitis because, having examined the domestic animals kept in the house where the infected mosquito was captured, Calandruccio found a dog the blood of which was swarming with embryos of filaria immitis, but Dr. Noè considers Calandruccio's discovery as null because Calandruccio was unable at the time to make any further investigation on the subject and because he did not identify the mosquito which he had dissected.

In the following chapter we are told how Professor Grassi discovered that anopheles maculipennis is the usual intermediary host of filaria immitis in Italy. Of course this discovery was neither prompted by Calandruccio's observation nor suggested by Dr. Manson's work on the life-history of filaria Bancrofti, but was the outcome of philosophical reasoning. Professor Grassi, while studying the mosquito-cycle of the hæmamœbidæ, discovered the larvæ of a nematode in anopheles maculipennis. Some time previously Professor Grassi had discovered that the distribution of filaria immitis in dogs coincided with the distribution of malaria. Later he discovered that the distribution of anopheles maculipennis coincided exactly with that of malaria, therefore he concluded that the larval nematode found in anopheles maculipennis must be the early form of filaria immitis.

Everybody knows now full well that the distribution of anopheles maculipennis does not coincide with that of malaria. There are many places, even in Italy, without malaria where anopheles maculipennis abounds and there are vast malarial regions where anopheles maculipennis is unknown. The same may be said of the distributional coincidence of filaria immitis and malaria. Moreover, anopheles maculipennis is not the only mosquito capable of fostering the larval stage of filaria immitis. Dr. Noè himself found that in the neighbourhood of Rome anopheles pseudopictus, anopheles bifurcatus, and anopheles superpictus are just as easily infected and he found several gnats

of the genus Culex (culex penicillaris, culex malariæ) equally susceptible. However, whether guided by Calandruccio's indefinite observation or by erroneous conceptions of the distribution of anopheles maculipennis, of filaria immitis, and of malaria, it is a fact that Professor Grassi and Dr. Noè have experimentally proved that anopheles maculipennis can foster the larval stage of filaria immitis.

Now, let us examine the experiments made by Dr. Noè to prove the inoculation theory of filaria immitis. To obtain infected mosquitoes Dr. Noè began by collecting at random female anopheles in any malarious locality; later he captured his specimens in the houses of Porto di Fiumicino (a small hamlet at the mouth of the Tiber) where, out of 10 dogs, six harboured embryos of filaria immitis. Of the anopheles thus collected at Porto less than 5 per cent. were infected and only about 2 per cent. had fully metamorphosed filariæ. Finding this proportion totally inadequate, Dr. Noè inclosed two filariated dogs in an ordinary reed hut and liberated in the same large quantities of anopheles gathered in various places. Thus he was able to raise the proportion of infected mosquitoes to about 30 per cent. The mosquitoes that had imbibed blood from the filariated dogs were afterwards kept in special boxes and fed on the juices of various fruit till ready for use. The dogs experimented upon were, so far as could be ascertained from examinations of the blood, free from filarial infection.

On July 19th, 1900, having obtained mosquitoes with filariæ in the labium, Dr. Noè dissected two such insects in normal salt solution and placed the liberated filariæ at the bottom of an incision made in the skin of a dog over a year old in the blood of which filaria embryos had not been found. Sixteen days after the inoculation, the dog was killed, but after a whole day of the most minute researches by Professor Grassi, Dr. Noè, and two other gentlemen, only a small portion of the anterior extremity of an adult nematode was found in the subcutaneous tissue near the genitals. This fragment (three millimetres long) was, however, labeled "filaria immitis" on account of the existence of six papillæ round its mouth and was considered to have been derived from one of the parasites experimentally introduced. On July 20th, a second experiment was made in the same way by stuffing filariæ in a skin wound, but it proved negative.

In consequence of the finding in his first experiment Dr. Noè considered the inoculation theory "sufficiently demonstrated." However, he endeavoured to obtain the inoculation of the parasites in the presumed normal way by means of the bite of infected mosquitoes and thus more befitting experiments followed in which dogs, to all appearances healthy, were inclosed at night with mosquitoes, a small proportion of which possibly harboured filariæ ready to be transmitted. The dogs were muzzled so that they should not swallow the mosquitoes and possibly become infected in this way. At the same time three other dogs were fed on large numbers of mosquitoes gathered in various places or purposely fed on filariated dogs in the laboratory. Moreover, a dog and a puppy were kept for one month at Porto together with the filariated dogs of the locality and in places swarming with mosquitoes. Neither the dogs fed on mosquitoes nor those kept at Porto showed any signs of infection at the necropsy.

The negative result in the dogs kept at Porto Dr. Noè explains by supposing that the dogs did harbour filariæ, but that they were killed too soon and that the worms escaped research on account of their diminutive size. The negative result of the feeding experiments, on the other hand, is triumphantly brought forward as "absolutely proving that infection cannot take place through ingestion as suggested by Manson." Why the explanation given in the case of the dogs kept at Porto should not be equally applied in the case of dogs fed on mosquitoes is not quite clear. One of the three dogs subjected to the feeding experiment was killed after eight months, but the other two were killed after one month and two months respectively. And here I must say that Dr. Noè, in stating that Dr. Manson suggested the ingestion theory, is incorrect, because it was Dr. Manson who suggested the inoculation theory and it was through him that the first and most suggestive evidence was produced. But Dr. Manson has worked at filariæ for more than 20 years and he has acquired that true scientific spirit of caution which seems to be wanting in Dr. Noè. We shall see further how Dr. Manson's reservations are fully justified by the observations of Dr. Noè himself.

The following are the experiments reported by Dr. Noè in which mosquitoes (anopheles maculipennis) supposed to contain fully metamorphosed filariæ were made to bite dogs apparently immune from filarial infection. 1. A bitch bitten on July 19th by two anopheles was killed in August; the result was negative. 2. A dog bitten on July 26th and several times after that date by many anopheles; it was killed in October, the result being negative. 3. A dog bitten on August 9th by eight anopheles was killed in October; the result was negative. 4. A dog was bitten on August 23rd and 24th by anopheles gathered at Porto. On Dec. 5th some few embryonic nematodes were found in its blood and Dr. Noè, mistaking them for the embryos of filaria immitis, supposed them to have been derived from the inoculated filaria and published the experiment as successful.[2] Early in February, 1901, this dog was killed, but notwithstanding the most careful researches during four whole days no adult filariæ were found, and Dr. Noè was obliged to suppose that the embryos found in the peripheral circulation of this dog must have been those of some other nematode, possibly those of filaria recondita, a parasite the location of which has, so far, escaped investigation. 5. A dog, two years old, was bitten on August 23rd and 24th, 1900, by anopheles infected on a filariated dog in the laboratory. Early in the following February embryos similar to those of the previous dog were found in its blood. This dog was killed on April 12th. After a very careful search one immature female filaria immitis was found in the subcutaneous connective tissue. It measured six centimetres, contained no embryos, and to all appearances had not been fertilised. This filaria had evidently nothing to do with the embryos in the blood. Besides, the latter were much smaller than the embryos of filaria immitis, they showed peculiar spring-like movements, and were provided with an erectile spine at the anterior extremity. 6. A small bitch was bitten several times between Oct. 15th and 20th, 1900, by anopheles captured at Porto. It was killed on April 14th, 1901, although no filaria embryos had ever been found in its blood. Nine adult filariæ were found, eight in the connective tissue and one in the pericardium. All were sexually mature. The females had been fertilised and they contained numerous embryos but they had not yet commenced parturition. The longest males measured five centimetres and the longest females 11 centimetres. 7. A dog, bitten in August, 1900, by anopheles collected at random in various localities, was killed on Sept. 3rd, 1901. A female filaria immitis was found in the subcutaneous connective tissue, but the worm had not been fertilised and no embryos of any kind had ever been found in the blood of the host.

Of these seven experiments Nos. 1, 2, 3, and 4 were negative, but Nos. 5, 6, and 7 were considered to be positive, because one or more filariæ were found at the necropsy. On account of the last three experiments Dr. Noè concludes: "It is fully demonstrated that the filariæ enter their definite host by means of the bite of mosquitoes." The negative experiments he explains by supposing that the experiment-mosquitoes were probably not infected or that the inoculated filariæ were not detected at the necropsy of the dogs on account of their diminutive size, the hosts having been killed too soon.

The crudeness of the above-mentioned experiments might be somewhat explained if the experiments had been instituted by Dr. Noè alone, who was at the time only a student, but we are told that they were carried out in Professor Grassi's laboratory and under his tuition, and, indeed, they were first published in the name of both. The methods of the attempts to procure infected mosquitoes and the extraordinary carelessness shown in the choice of suitable dogs, are most surprising, especially in a man who was supposed to have gained some appropriate experience during the researches he made while studying the mosquito propagation of the malaria parasites. The mosquitoes for the experiments should have been reared and infected in the laboratory and the dogs should have been puppies born after the end of the last season of infection (October) and carefully guarded from every possible source of infection till the time of experiment. Instead of which we find Dr. Noè experimenting with non-infected mosquitoes and with dogs, two and more years old, already harbouring various species of filariæ.

Of the two experiments in which filariæ were inserted into skin wounds one is reported as successful and the other as negative. In the experiment considered to have been

[2] Rendiconti dell' Accademia dei Lincei, vol. ix., 2. sem., serie 5, fasc. 12.

successful only a small fragment of a nematode was found. We are told that it proved sufficient for the identification of the parasite, but I doubt this very much and my doubt is not a retort to the insinuation made by Dr. Noè that perhaps the nematodes described by Dr. Manson were not filariæ, but is very justly based on Dr. Noè's most awkward mistakes. In fact, Dr. Noè owns himself that he mistook the embryos of some other nematodes for those of filaria immitis which he, a zoologist, had been studying for nearly two years; but another very bad mistake is found at page 325 where, after stating that filaria immitis at its maximum stage of development within its intermediary host measures about 900μ, he adds that once he found one that had attained the enormous length of two centimetres. Dr. Noè found this filaria amongst the thoracic muscles of an anopheles and explains its gigantic proportions by its unusual location which "must have caused a long permanency in the body of the mosquito." While in the Roman Campagna Dr. Low and I found similar filariæ in the thoracic muscles of anopheles maculipennis, but time and circumstances prevented us from determining the definitive host of these nematodes. However, the greater dimensions of these parasites and the different location for their development suggest at once a specific distinction.

Even allowing that the identification of the tiny bit of worm was possible and absolutely correct, it is not by any means proved that it was derived from one of the artificially introduced filariæ. It was ascertained that the dog at the time of the experiment had no filaria embryos in its blood, but it was not proved that it did not already harbour young filariæ in its tissues.

In experiment No. 6 of the series, in which anopheles *supposed* to be infected were made to bite dogs *supposed* to be non-infected, nine sexually mature filariæ were found six months after the date of *supposed* infection. In experiment No. 5, a filaria only half grown was found at the post-mortem examination eight months after the date of experimental inoculation, and in experiment No. 7 a filaria still immature was found 13 months after experimental inoculation. Supposing for one moment that the immature filaria found in experiment No. 7 had really been derived from one of the larvæ inoculated 13 months previously, it would be difficult to understand how in experiment No. 6 the filariæ could have reached full maturity in less than six months.

From what I have said, it is clear that no account can be taken of Dr. Noè's experiments, but Dr. Noè mentions an observation of a different kind by which he says he obtained quite unexpectedly a most definite proof as to the direct inoculation of filaria by means of the bite of mosquitoes. On July 25th he gathered a large batch of anopheles. On August 5th he examined a number of these mosquitoes and ascertained that some of them were filariated. On the 10th he examined the remaining mosquitoes but did not find a single filaria in any of them. Supposing that the mosquitoes might have lost their filariæ while feeding on fruit he looked for the nematodes in the fruit pulp on which the mosquitoes had fed but was unable to find any. On the 23rd, having found filariæ in the labium of certain mosquitoes out of a large quantity which had been fed on the 10th and 11th of that month on a filariated dog, he closeted some of these mosquitoes all night with a healthy dog (experiment 4 or 5). On the next morning these anopheles were heavily gorged with blood. On dissection he did not find a single filaria in any of them, but he says that he found in their Malpighian tubes lesions undoubtedly significative of filarial infection. He at once examined the remaining mosquitoes and found that five out of 11 contained filariæ in their labia and showed in their Malpighian tubes changes similar to those of the gnats previously examined. Thereupon Dr. Noè concluded that the anopheles which had bitten the dog must have emptied out their parasites during puncture and that the remaining anopheles of the previous batch, which on August 10th had no filariæ while others of the same batch five days earlier had been found infected, must have emptied their larvæ in the fruit pulp and that the liberated filariæ must have escaped detection on account of their very minute size.

This observation is, like the others, most unsatisfactory. We know that only a certain proportion of the mosquitoes employed were infected; it is quite possible, therefore, that those dissected after biting the dog or feeding on fruit were the non-infected ones. Admitting that those in which Dr. Noè says he found lesions of the Malpighian tubes were really infected it is in no way proved that the filariæ were liberated during puncture and not evacuated with the fæces. Dr. Noè was unable to demonstrate the presence of filariæ in the fruit pulp and his experiments upon dogs, as we have already seen, are totally untrustworthy. Against Dr. Noè's surmise as to the liberation of filariæ in fruit during puncture stand the observations of T. L. Bancroft and Dr. Low which prove the contrary. Besides, Dr. Noè himself in another part of his paper says that to obtain the liberation of the filariæ the labium must bend and rupture: "In the case of fruit, when the insect can absorb the juices at the surface without thrusting the stylets to any depth, and therefore without bending sufficiently the labium, the liberation of the parasites does not take place." Then, again, how is it that all the mosquitoes examined had emptied all their filariæ simultaneously while Dr. Noè states that the parasitic larvæ do not reach maturity all simultaneously but successively, and that, therefore, this migration to the mouth parts of the host takes place by "successive stages." "In fact," he says, "I have frequently observed that after an emission of parasites the Malpighian tubes still contain a certain number of filariæ ready to leave in a short lapse of time their larval seat. It is obvious, therefore, that the labium becomes again gradually invaded by, and stuffed with, filariæ and that thus a second emission may take place on a subsequent puncture. Thus the mosquitoes when abundantly infected may have the power of inoculating the parasites two, and perhaps even more, times."

Now, leaving aside Dr. Noè's contradictions and admitting for a moment that, as he believes, the filariæ might escape from their intermediary hosts while the latter imbibe the juices of fruit, we obtain a strong proof of the judiciousness of Dr. Manson's caution in writing that "the fact of the presence of the filaria in the proboscis of the mosquito suggests, without actually proving, that the parasite is directly inoculated into man by mosquito-bite. At the same time we must remember that the fully metamorphosed filaria is sometimes found around the stomach, about the viscera, and elsewhere than in the head of the mosquito. It is quite possible, therefore, that it may leave the insect by some other channel than the proboscis, and it may be passed into water with the fæces, the eggs, or even by the proboscis." Finally, Professor Grassi and Dr. Noè claim to themselves the discovery of the inoculation theory of filariasis because, they say, Dr. Low was not able to prove how the filariæ escaped from the labium. They suggest that the filariated labium tears towards the middle of its dorsal aspect while bending during puncture. But this is nothing more than a hypothesis and Dr. Noè himself says: "I think that an absolute certainty is difficult to obtain on this point because, as everyone understands, one would have to surprise the filariæ in the act of escaping during the operation of the puncture, and this is far from easy." T. Everett Dutton has suggested a far more rational point of escape at the tip of the labium, between the labellæ. This area is covered by a very delicate membrane which tears very easily and is practically over the point of puncture when the mosquito draws blood—a very important condition to insure the inoculation of the liberated filariæ. Personally, I believe that the filariæ pass into the wound along the dorsal groove of the hypopharynx, having reached the mouth cavity by piercing the delicate membrane which connects the chitinous pharynx to the base of the hypopharynx, and I believe that their presence within the labium has no other significancy than that of their presence within the palpi which is just as frequently observed. However this may be, the hypothesis advanced by Professor Grassi and Dr. Noè is certainly the least probable.

I think that it is to be very much regretted that Dr. Noè did not limit his paper to the researches which he made on the development of filaria immitis in anopheles maculipennis. His observations on the structure of this parasite during its larval development are certainly accurate. I do not agree with any of his interpretations, but that is perhaps a matter of opinion. For instance, Dr. Noè thinks that the jutting posterior intestine of the filaria in its early stages becomes an organ of adhesion and fixes the parasite to the cells of the Malpighian tubes. I think instead that it subserves the function of nutrition. If we examine the filaria larva between the sixth and ninth day of its development within the Malpighian tubes of a mosquito we find that its posterior intestine does not communicate with the rest of the alimentary apparatus but forms a completely closed, bladder-like body, part of which projects outside the body

of the worm into the cytoplasm of the host to absorb nutriment and, indeed, the vesicle gradually fills with a clear, transparent fluid. Besides, on the ninth day or thereabouts the chyliferous intestine becomes connected with the posterior intestine and the protruding part of the latter opens to form the anus. Thenceforth the filaria feeds by the mouth.

Dr. Noè has observed that the filariæ undergo at times a brown degeneration within the Malpighian tubes of their host and, true to the traditions of the Roman school, he believes this degeneration to be a retrogressive process of the parasite. This so-called brown degeneration begins by scattered brown spots which under a strong magnifying power have a lenticular shape. The spots gradually increase in number and coalesce into large dark-brown patches. These brown bodies may appear on a few or on all the filariæ contained in one or in all of the Malpighian tubes of a mosquito. They are no other than the "black spores" described first by Major Ross in connexion with the hæmamœbidæ. I believe that they represent a parasitic infection comparable to the pebrine disease of silk worms.

Dr. Noè closes his paper with a most extraordinary remark. He recognises that the prodigious fertility of filaria immitis is an admirable adaptation for the perpetuation of the species, but he explains its operation in a way which seems to me to be far more original than reasonable. He says that the mosquitoes become so easily infected that if numbers of them did not die the canine species would soon become totally extinct and with the disappearance of dogs the filariæ would necessarily also disappear; therefore, to avoid such a disaster the filariæ have excogitated the admirable means of killing off their necessary intermediary hosts by a prodigious fertility and consequent heavy infection. Dr. Noè explains the passage of the filaria from definitive to intermediary and from intermediary to definitive hosts in a totally passive way and I will not ask him why other filariæ develop in other parts of the mosquito instead of gravitating, like *his* filaria immitis, first into the Malpighian tubes when the mosquito sits up after its meal, and then into the labium when the latter comes down again head foremost to draw blood, but I feel that I must protest against the stigma of suicidal mania which he casts on the worm, forgetting the universal significancy of an enormous fertility which is common to numberless species, and forgetting that the domestic dog may possibly not be the only definitive host of filaria immitis and that filaria immitis, although widely distributed, is strictly limited to certain swampy stations.

SOME FURTHER STATISTICS REGARDING THE EFFECT OF INOCULATION AGAINST TYPHOID FEVER IN SOUTH AFRICA,

WITH SPECIAL REGARD TO THE QUESTION OF AGE.

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IN THE LANCET of May 3rd, 1902, at p. 1241, will be found the statistics of 250 officers invalided from South Africa for various causes. These figures showed a higher percentage incidence of typhoid fever among the inoculated (28·5) than among the non-inoculated (22·0), and it was pointed out that this might be due to a higher rate of recoveries among the inoculated. I do not propose to discuss the figures which might be adduced in support or otherwise of this opinion. My figures also showed that the average date of attack after disembarkation in South Africa was shorter among the inoculated (9·4 months) than among the non inoculated (10·3 months), but that the non-inoculated were more susceptible during the first five months after disembarkation than the inoculated. The inference to be drawn from these figures was that inoculation conferred a certain measure of protection for a period of about six months. After that period the inoculated appeared to suffer more than the non inoculated. I hinted that these differences indicated the operation of some law affecting the figures.

The publication of these statistics led to a correspondence with Professor Wright of Netley who suggested that the law referred to was probably that of age and susceptibility. He thought it probable that the inoculated would be found to be younger men than the non-inoculated and that the higher incidence among the former after the six months of protection afforded by inoculation had passed was in all likelihood due to the re-assertion of their greater susceptibility on account of their comparative youth. I had not recorded the ages of the 250 officers who furnished the statistics and I accordingly commenced a new series of observations with a view to ascertain what truth there was in Professor Wright's suggestion. The following figures are the result of this inquiry. Table I. shows that the average age of the inoculated was 25·4 years and that of the non-inoculated was 30·6 years, a difference of five years. The incidence of typhoid fever among the former was 33·3 per cent. and among the latter 32·9 per cent.

TABLE I.—*Showing the Average Age of the Inoculated and Non-inoculated.*

—	Number.	Average age (years).	Cases.	Per cent.
Inoculated once...	89	25·4	24	26·9
,, twice...	13	25·5	10	76·9
Total inoculated	102	25·4	34	33·3
Previous attacks	19	32·1	3	15·8
Not inoculated	85	30·6	28	32·9
Totals	206	28·2	65	31·5

The figures in Table I. show a distinct advantage in favour of a single inoculation, but they indicate a strong susceptibility to enteric fever among those who were inoculated twice. In this series 10 out of 13 officers who were inoculated twice on the outward passage contracted typhoid fever after disembarkation in South Africa. In my first series the proportion attacked was smaller, two in 10. Taking the two series together it will be found that of 23 double inoculations 12 were infected, or over 50 per cent., as against 33 per cent. among the non-inoculated. I do not think that a difference of age amounting to five years would account for this greater incidence; and it is possible that the double inoculation is excessive and diminishes the resisting power of the blood to infection. The incidence among those twice inoculated is just double that among the once inoculated, and such a result would not be in discord with some of Professor Wright's more recent experimental work.

In the following tables (Tables II., III., IV., and V.) the incidence in relation to age is shown in detail. They show that 60 per cent. of the inoculated were under 26 years of age, against 22 per cent. among the non-inoculated. The incidence at this age among the non-inoculated was 63·4 per cent.; among those inoculated once 27·8 per cent.; and among those inoculated twice 71·4 per cent. This gives a difference of 35 per cent. in favour of a single inoculation at this age, which must be regarded as a very substantial gain. Between the ages of 26 and 35 years the number of inoculated constituted 31 per cent. of the total inoculated, against 50 per cent. among the non-inoculated. At these ages the incidence among 42 non-inoculated was 31 per cent.; among 27 inoculated once 22 per cent.; and among five inoculated twice 80 per cent. Here there was a gain of 9 per cent. among those inoculated once.

TABLE II.—*Inoculated Once.*

Age in years.	Number.	Cases.	Per cent.
17–20	28	5	17·8
21–25	26	10	38·4
26–30	16	4	25·0
31–35	11	2	18·2
36–40	5	1	20·0
41–45	3	2	66·7
Average age 25·4 ...	89	24	26·9

TABLE III.—*Inoculated Twice.*

Age in years.	Number.	Cases.	Per cent.
17–20	5	4	80·0
21–25	2	1	50·0
26–30	3	2	66·7
31–35	2	2	100·0
36–40	1	1	100·0
Average age 25·9 ...	13	10	76·9

TABLE IV.—*Total Inoculated.*

Age in years.	Number.	Cases.	Per cent.
17–20	33	9	27·7
21–25	28	11	39·3
26–30	19	6	31·6
31–35	13	4	30·7
36–40	6	2	33·3
41–45	3	2	66·6
Average age, 25·6 ...	102	34	32·3

TABLE V.—*Non-inoculated.*

Age in years.	Number.	Cases.	Per cent.
17–20	10	5	50·0
21–25	9	7	77·7
26–30	24	10	41·7
31–35	18	3	16·6
36–40	15	1	6·6
41–45	9	2	22·2
Average age 30·9 ...	85	28	33·1

Above the age of 35 years the advantage was in favour of those not inoculated, of whom 28 per cent. were included in this section, against 9 per cent. of the inoculated. The incidence of enteric fever at this period of life was 12·5 per cent. for the 24 non-inoculated, 37·5 per cent. for the eight inoculated once, and 100 per cent. for the one individual inoculated twice—an advantage of 25 per cent. in favour of non-inoculation over one inoculation. I am not in a position to offer any explanation of this remarkable outcome of my statistics.

For the more ready perception of the effect of inoculation at different ages I append in Table VI. the differences observed in the incidence of the disease in the different classes, taking that among the non-inoculated as a standard at each quinquennial period.

TABLE VI.

Age in years.	Incidence per cent.		
	Non-inoculated.	Inoculated once.	Inoculated twice.
17–20	50·0	−32·2	+30·0
21–25	77·7	−39·3	−22·7
26–30	41·7	−16·6	+50·0
31–35	16·6	+ 1·6	+83·0
36–40	6·6	+13·4	+93·0
41–45	22·2	+44·5	..
Average ...	33·1	− 6·2	+43·8

These tables show that the period of greatest susceptibility to enteric fever is from 20 to 25 years of age. This was true for the inoculated as well as the non-inoculated, but it was precisely at this period that the evidence of the protective effect of inoculation was most marked. Up to the age of 30 years the advantage of a single inoculation is distinct, the incidence in this class being 27 per cent. against 51 per cent. among those not inoculated. Beyond the age of 30 years the position is reversed and the advantage is with the non-inoculated, the incidence among them being then only 14·3 per cent., against 27·4 per cent., among those inoculated once. These figures would seem to suggest that as the period of natural susceptibility to the disease is passing away inoculation is to be avoided as likely to increase the liability to infection. The whole question of immunity, and the effect of inoculation on immunity, is evidently and admittedly a most difficult and complicated one. I am glad, however, to be able to point out by these statistics the unmistakeable evidence which they afford of the clear and substantial advantage a single inoculation gives to the young soldier under the age of 30 years, and especially at the age when his susceptibility to the infection is greatest.

With regard to the period which elapsed between disembarkation in South Africa and the attack the average for those not inoculated was 14·4 months, for those inoculated once it was 11·8 months, for those inoculated twice it was 7·7 months, and for those who had had a previous attack of enteric fever 11 months. These periods bear the same relation to each other as in my previous series of cases. The advantage of the non-inoculated in this respect is doubtless to be accounted for by their greater average age and consequent lower susceptibility. The early attack of those inoculated twice is corroborative of the opinion expressed above, that a double inoculation increases the susceptibility to infection.

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THE TREATMENT OF APPENDICITIS.

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IT may be of some interest if I endeavour to report the practical conclusions derived from 140 operations for appendicitis. In order that no misunderstanding may arise I will commence by quoting an extract from Sir Frederick Treves's excellent work on "Surgical Applied Anatomy," which I consider fully illustrates the complex anatomical nature of the infection and the difficulties which must necessarily attend clinical diagnosis. "The mesentery of the appendix which contains an artery derived from the ileo-colic, may be so short as to produce obstructive kinks in the appendix. The mucous lining is so crowded with solitary lymphoid follicles as almost to occlude its lumen. In some forms of appendicitis these follicles are involved. They are surrounded by lymph spaces, from which vessels pass to the lymph glands in the mesentery and others pass upwards behind the ascending colon (Lockwood). It is probably through these latter vessels that infection passes from the appendix and gives rise to abscesses in the subdiaphragmatic region. The muscular coat of the appendix is scanty and through breaks in it the submucous tissue communicates with the subserous. Inflammation of the mucous membrane may, therefore, spread without hindrance to the peritoneum." At present there are three operative procedures in vogue for purulent appendicitis—cœliotomy and drainage without subsequent removal of the appendix; cœliotomy with drainage and secondary appendicectomy; and cœliotomy, removal of pus, separation of adhesions, and appendicectomy at the same time. The advocates of the first method have not as yet got rid of the erroneous idea that in the wreck of matter attending abscess formation destruction of the appendix not infrequently occurs. Personally I never believed in such a doctrine and I have had ample practical proof that the appendix never completely disappears without the help of a surgical instrument, but I have frequently operated on cases in which the organ appeared to be transformed into a kind of fibrous cord, which, by the way, was invariably adherent to something and caused the patients continual indigestive worry, which can be explained by its tent-rope action on a distensile and sluggish cæcum.

On three occasions I have had to remove the appendix during a recurrent purulent attack in patients who had had incision and drainage performed by other surgeons years before and in each instance I found the appendix entire. In

four of my early cases, from want of experience, I abandoned the appendix. The first patient discharged pus for 18 months, at the end of which he not unnaturally sought other advice and I have not heard of him since. (The other day I saw Mr. Lockwood operate on a case which had discharged for 12 months after incision and drainage.) The second patient had a very large incision made as there was a huge iliac abscess; the wound took 10 weeks to heal. About a year afterwards a hospital surgeon in Scotland wrote to me inquiring what was the meaning of such a large cut and what was my diagnosis as the patient had entered under his care with what appeared to be an attack of purulent appendicitis. The third patient returned within three months, very much disgusted, with a recurrent attack. On separating some dense posterior cæcal adhesions I found a decomposing prawn-like appendix tucked up behind the cæcum. I have little doubt that in this case a smouldering fire continued since the primary attack. (I recently saw Mr. Burghard operate on a case during what the absence of any symptoms declared to be in the "quiescent" stage; he found the appendix deeply adherent and its distal half was literally converted into a bag of pus.)

The fourth case was very interesting in that the site of the abscess differed on each occasion. At the first operation a large fœtid abscess was found external to the cæcum and colon; three and a half years later the patient returned to hospital complaining of intense pain and tenderness in the right lower abdomen. On palpation a large tumefaction was readily detected. On opening the parietal peritoneum I was surprised not to meet with any pus; instead, a mass of thickened inflamed adherent omentum presented. On separating this from underlying intestines I discovered a large intra-intestinal tumour completely covered over by coils of bowel. Having packed all round I separated the adhesions between the cæcum and the ileum and evacuated about a quart of foul green pus, and at the bottom of the abscess cavity I found a gangrenous perforated appendix; about five inches of an adjacent coil of ileum was gangrenous on its under surface and tore right across on separating the appendix from it. As the patient showed signs of collapse at this stage of the procedure two 10-minim injections of liquor strychnine were administered as well as a warm enema. I rapidly removed the appendix and then excised some six inches of gangrenous gut, including my tear; a Murphy button was inserted. As there was intense shock, 10-minim injections of strychnine were given every half hour for the succeeding three hours; reaction took place and an uneventful recovery ensued. The button was passed on the nineteenth day and when the nurse exultingly showed it to him he replied: "It was right enough where it was." I believe that the strychnine saved his life, and since I first read of the treatment in Baldy's "Gynecology" I have used it constantly in cases of shock with the best results. I like to see a little muscular twitching as it indicates that a sufficient dose has been administered.

The following case occurred in the practice of a colleague. A middle-aged man suffered from a primary attack of purulent appendicitis. Owing to the dread of operation hot poultices were applied for some six weeks. As nothing had burst by this juncture his medical attendants persuaded him to allow them to make "a little cut just big enough to let out the matter," which they said was devoid of risk. This was done and the toxic symptoms rapidly disappeared. The purulent discharge had almost ceased 10 days later and one day as the surgeon was leaving the room after changing the dressing the patient said that he "felt wet." On removing the bedclothes the dressings were found to be saturated with blood and he rapidly succumbed, pressure and plugging proving futile. As no post-mortem examination took place the cause of the catastrophe remains uncertain, but one cannot help thinking that if a complete operation had been performed the infection would not have travelled into and ruptured, presumably, the iliac vein.

The following is an interesting example of the inefficacy of suppuration as a cure for appendicitis. A young woman suffered from purulent appendicitis in 1895; poultices were applied for two months, when a large discharge of pus took place by the rectum. After this she continued to have recurrent attacks of pain, occasionally accompanied with fever and prostration, and suffered very much at each menstrual period with severe pain in the right pelvis. After five years of such misery she resolved to have the matter settled "one way or other" and insisted on having a radical operation performed. It would be difficult to describe the labyrinth of dense adhesions in which I found myself, omentum, bowels, fibrous cord-like appendix, right tube and ovary, uterus, left appendage, and rectum forming a conglomerate of which I have never seen the like. After a most trying ordeal and at the expense of much intestinal peritoneum I effected separation of the above structures, performed appendicectomy, right oöphorectomy, excision of a large mass of omentum, and concluded by fixing the uterus to the lower angle of the parietal wound, and by suturing over all the denuded surfaces of the bowel. A desperate peritonitic struggle followed on the fourth and fifth days which, luckily, was got over by purgation. A year later I had to remove some silkworm-gut ligatures from a sinus which tracked down to the bottom of the pelvis. She is now quite well.

Particular attention must be devoted to the treatment of intra-intestinal appendical abscesses. If the whole mass cannot be delivered through the wound the field must be thoroughly exposed and isolated by gauze packing before adhesions are separated, and any laceration of intestinal serous membrane must be subsequently repaired by a few Lembert sutures. Occasionally patients reproach one for the length of scar or for a subsequent ventral hernia. I can generally appease the cosmetic indignation of the fashionable lady by replying that both afford strong evidence that I saved her life.

One has next to consider the expediency of the second method which is unquestionably a step in advance of the above-mentioned one in that the danger attending the derelict appendix is fully recognised, but it fails in the assumption that risk is removed by a subsequent appendicectomy in the "quiescent" period. The reason usually assigned for this two-stage procedure is that there is a great danger of setting up diffuse septic peritonitis by separating adhesions in the presence of pus. I do not think such a fear is founded on fact, for I have at least on 100 occasions separated peritoneal adhesions after removing free pus and in no instance has such a complication supervened. The supposed risk is a mere nightmare developed from a faulty appreciation of the function of an adhesion. The formation of inflammatory adhesions is nature's method of staying the advance of infection and acts as a temporary barrier until one of three things occurs—the abscess empties itself somehow, the patient dies from sepsis, or the surgeon intervenes and relieves the adhesion of all further responsibility, and this is amply proved by the fact that peritoneal adhesions usually disappear after the exciting cause is removed. Under no condition excepting impending death on the table, or a most enfeebled constitution, do I admit that a retreat before a friendly adhesion is justifiable without the removal of the cause of infection, and, furthermore, I consider that the greater the density of the adhesion the greater the necessity for pushing home the attack, for it may be taken as a general rule that the density of adhesions is in due ratio to the intensity of primary trouble. The following are excellent illustrations of the futility of attempting to treat a case of purulent appendicitis without separation of adhesions, as neither pus nor appendix can be dealt with without doing so.

CASE 1.—An American, aged 68 years, while crossing the Andes was seized with an acute attack of purulent appendicitis. On opening the peritoneal cavity no parietal serous adhesion or pus was met with, but a movable tumour surrounded by congested adherent intestines presented. Realising the probability of an intra-intestinal appendical abscess I delivered the whole mass through the parietal wound, and on separating adhering bowels an abscess containing some 12 ounces of offensive pus was evacuated and at the bottom of the cavity I found a suppurating appendix. Free drainage was provided and a rapid recovery ensued.

Cases 2, 3, and 4 were identical in that, as no pus was found until a thickened adherent mass of omentum was separated from the cæcum and in each instance I found a partially gangrenous appendix lying in a circumscribed pool of fœtid pus, appendicectomy with drainage was performed. All the patients recovered.

CASE 5.—A man occupying an important position in a company entered hospital for an operation for appendicitis. The omentum was adherent to the parietal wall and to adjacent intestines. When freed the cæcum was found to be glued to the ileum which when separated revealed a small intra intestinal abscess and a gangrenous perforated appendix with a gall-stone (of about the size of a cherry-stone) working its way out through the perforation.

Appendicectomy with drainage was performed. Recovery ensued.

CASE 6.—A boy, aged 13 years, was operated on for what I considered to be an attack of "simple" appendicitis. I had great difficulty in finding the appendix, which was adherent behind the cæcum, surrounded by a tablespoonful of pus. (On post-operative examination a small gall-stone was discovered near the distal extremity of the organ.) Recovery ensued.

I may here mention that these were the only foreign bodies I have met with in my series of cases.

CASE 7.—A sailor entered the hospital suffering from an obvious appendical abscess in the right iliac fossa. When the peritoneum was incised about one and a half pints of pus escaped. Having carefully dried the cavity I proceeded to search for the appendix and on liberating some omentum which was adherent to the cæcum and the pelvic brim a large pelvic abscess was found. Appendicectomy was performed and recovery ensued. In this instance the adherent omentum formed a partition between the two collections of pus.

CASE 8.—A patient was operated on for a large appendical abscess which filled up the right fossa. After evacuation of the same I found the cæcum densely adherent posteriorly and on freeing the adhesion opened into a small post-cæcal abscess which contained a gangrenous appendix. Recovery ensued.

CASE 9.—A young woman, aged 21 years, was operated on for what I took to be "simple" appendicitis. On opening the abdomen I discovered nothing except a small intra-intestinal tumefaction of about the size of a plum. On separating the adherent coils a small fæcal abscess was found as well as a gangrenous perforated appendix and three infective concretions loose in the cavity. Appendicectomy was performed and recovery ensued.

These cases cannot be considered in any way exceptional, for, as Sir Frederick Treves states, "the appendix, as a rule, is seen to lie behind the end of the ileum and its mesentery and to point in the direction of the spleen; it frequently also lies behind the cæcum." From this it is obvious that any surgeon who counts on meeting the appendix externally to the cæcum will in the majority of instances meet with disappointment, and in order to effect a cure the besieging adhesions must sooner or later be reinforced by surgical aid and the diseased appendix removed. Indeed, Dr. Cullingworth's statement about pelvic collections, "as one's experience increases the fewer become the number of incomplete operations," ought to apply with equal, if not greater, force to such an acute deadly disease as appendicitis.

In a previous paper I gave details of a case in which I thought the patient had recovered from an attack and was on the point of discharging him from the hospital, as he had no signs or symptoms left of any infective process in the appendical region. Taking into consideration the possibility of a recurrence at a distance of 300 miles (where he resided) from Buenos Ayres I advised him to have his appendix removed. At the operation I found nothing until I attempted to elevate the cæcum, which was adherent posteriorly. On exploration I discovered a tubular form of abscess tracking up behind the cæcum and ascending colon and a gangrenous perforated appendix. I confess this case gave my diagnostic sense a rude shock from which it has never recovered—I am happy to be able to state that the patient did.

The key to success in these purulent cases is to operate early and to introduce the sense of sight by a large incision; without the latter disaster is bound to occur. The method which I adopt is as follows. A four-inch oblique incision (to begin with) is made over the centre of tumefaction, the external oblique is split parallel to its fibres, and the underlying muscles are divided by a scalpel through the whole length of the wound. I found McBurney's gridiron method very unsatisfactory, for it constantly happened that transverse muscular separation of the internal oblique and transversalis had to be supplemented by vertical incisions in order to gain sufficient room for manipulation and to see what one was doing. Also the barbarous practice of forcibly dragging muscles asunder by retractors opened up muscular planes which increased the risk of parietal infection during the evacuation of pus. For this reason I endeavour to disturb the muscles as little as possible and on opening the peritoneum hasten to insert silkworm-gut sutures through the parietal wall on each side (as suggested by Mr. A. Marmaduke Sheild) in order to avoid any muscular separation. These sutures are tied and the ends are grasped by pressure forceps, which serve as excellent retractors, or, what is even better, the ends may be sewn to the skin at some distance from each edge of the wound, drawn taut and knotted, and in this manner they act as most convenient self-retaining retractors. The pus having escaped the whole cavity is thoroughly mopped and brushed with large rolls of iodoform gauze. Then the hands are washed in a fresh solution of corrosive sublimate and alcohol (1 in 1000) and the towels are changed. Any adherent thickened omentum is first separated and excised, intestinal adhesions are next deliberately freed, the field being kept dry on gauze pads. When the appendix is differentiated and brought to the surface an assistant grasps the appendical segment of the cæcum between the thumb and forefinger of each hand. His fingers act as efficient clamps and, furthermore, steady the part while the appendix is looped off close to the cæcum by one stroke of the scissors and the little wound is closed by two rows of fine silk continuous sutures. After a final mopping of the whole field a large petticoat drain is inserted at the lower angle of the incision, the end being placed at the most dependent point in the cavity, the upper portion of the wound is closed by silkworm-gut sutures, and a strip of iodoform gauze is passed down by a long blunt forceps to the bottom of the drainage-tube; a hole is made in the dressings so that the capillary drain may be changed by the nurse as often as may be necessary. I usually remove the tube on the third or fourth day, substituting a small roll of iodoform gauze. A movement of the bowels is brought about on the second day which may be comfortably effected by one or two preparatory belladonna pills followed by an enema.

As to the treatment of ventral hernia, I should like to mention that I find that elliptical excision of the skin cicatrix and complete exposure and approximation of the muscular layers effect a cure. The important detail in the operation is not to leave a remnant of scar tissue in the depth of the wound, as fresh surface must be united to fresh surface in order to obtain a good result. Interrupted silkworm-gut sutures passed methodically (by aid of pressure forceps applied to each layer) is the most satisfactory method of union.

With regard to fulminating appendicitis, all surgeons are agreed as to the necessity for prompt intervention in this grave form of appendicitis and I very much regret that I am unable to report a single cure, as the six patients on whom I operated were practically moribund before admission to hospital. One feels at a loss how to explain the absence of adhesions in these cases. I think that rapidity and intensity of infection affording no time for their formation before perforation and the escape of fæcal matter takes place, is an inadequate explanation. A case which I operated on 18 months ago first raised my doubts on this point. A young man was attacked on a Thursday evening with severe pain in the right lower abdomen and vomited frequently during the night. On the following morning my friend, Dr. Dodds of Lomas was called in, and diagnosed acute appendicitis and strongly urged immediate operation, which was not acted on until the following Sunday when the patient was brought into the hospital. His temperature was then 104° F., his pulse was 120, and his tongue was very dry; the abdomen was very much distended; there were constant hiccough and absolute constipation, no flatus or motion having passed since the onset—truly a poisoned state. I operated soon after admission and found the intestines very distended, the appendix was gangrenous *without perforation*, surrounded by a small quantity of turbid serum lying between the cæcum and the ileum, no attempt at adhesion having taken place, and the adjacent bowels presented a peculiar dusky dry appearance. On further exploration of the peritoneal cavity no flakes of lymph or pus were visible. I removed the appendix and provided free drainage. No reaction followed, the bowels continued recalcitrant, and as a last resource I incised the cæcum on the second day. A little gas and fæcal matter escaped. Enterotomy proved useless, the ileus continued, and he died on the following day. I had not known of Mr. Sheild's suggestion at the time; if I had I should certainly have injected magnesia directly into the cæcum through the appendical opening before suturing the latter.

It is possible that the absence of adhesions in this form of appendicitis may be explained by streptococcic infection, causing intense toxæmia with destruction of the plastic elements in the blood. Possibly bacteriologists will soon be able to subdivide septicæmia into strepticæmia and staphylicæmia, the former being characterised by profound poisoning, little liquid, and no plasticity as in erysipelas and

surgical scarlet fever, and the latter by less intense toxæmia, abundant pus, and adhesions. In the majority of cases there is probably a mixed form of infection and the formation of adhesions may then depend on the streptococcus or staphylococcus being the predominant partner.

As to the treatment of non-purulent appendicitis I can only endorse what I advocated in my former paper, that owing to the impossibility of determining the exact pathological condition, and to the insidious nature of the disease, I consider it a duty to operate on every case within 24 hours after admission to the hospital, and the operation I perform differs from that employed in obvious purulent cases in that I commence with a two-inch incision, which is promptly extended if the appendix cannot be brought easily to the surface. Recently I have seen a case operated on in which the appendix was deeply adherent, and after one hour's poking with two fingers at the bottom of a small dark hole the surgeon succeeded in breaking off the top of the appendix, which afterwards could not be discovered even with the aid of head-lights. Such a procedure is really more dangerous than the disease itself. The appendix is next carefully ligated and although the vessels may be of small calibre they deserve serious attention. I operated on a most simple case about a year ago, and five days later had to re-open and to enlarge the wound in order to clear out a huge mass of blood-clot which occupied the greater part of the right abdomen, the result of hæmorrhage coming from a small vessel in the meso-appendix which had escaped ligation. The patient recovered. Having ligated and separated the mesentery from the appendix a circular incision is made around the latter close to the cæcum, which exposes the mucous coat; this is ligated with fine silk. Pressure forceps are then applied to the distal portion of the appendix, about one-third of an inch from the ligature; the appendix is divided between and the stump is covered over by three or four Lembert sutures which take a firm grip of the cæcal wall. I find that the pressure forceps prevent any leaking when the appendix is divided and no peritoneal soiling takes place. Some surgeons divide the appendix with a hot iron, quite oblivious of the fact that the formation of eschars, even within the forgiving peritoneum, is inconsistent with modern ideas as to the healing and treatment of wounds.

In all recent surgical text-books one sees illustrations of what is usually described as the "cuff" operation; in this the peritoneal coat is circularly divided and dissected down towarded the cæcum. The mucous coat is then ligated with silk, the appendix is divided, and the above-mentioned web of serous membrane is drawn over the stump by sutures. The advocates of this finicking procedure evidently have not studied the late Mr. Greig Smith's definition of a good intestinal suture. (See the diagram, Fig 129, "Abdominal Surgery," illustrating the best and the worst methods.) As he stated, "Halsted first pointed out the importance of catching up a few fibres of the submucosa to give holding power to the suture; to pick up many fibres by pushing the needle along the line of fibrous layer gives greatly increased firmness to the suture grip. The muscular and peritoneal coats are easily torn through, the fibrous coat is not easily torn." The parts are finally thoroughly dried with gauze pads and the external wound is united by interrupted silkworm-gut sutures, which are usually removed from the seventh to the tenth day, and the patients are discharged at the end of the third week. In conclusion, I should like to add that in this series of 140 cases 53 were purulent; in all I had nine deaths, six of which occurred in fulminating cases, as stated before, and I venture to think that a mortality of 2·2 per cent. in the remaining 134 operations compares favourably with the results of any other form of treatment.

Buenos Ayres.

A CASE OF RUPTURED GLUTEAL ANEURYSM; TRANSPERITONEAL LIGATURE OF THE INTERNAL ILIAC ARTERY.

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THE rupture of an aneurysm is always a grave incident in surgery. The rupture of a gluteal aneurysm can never fail to be of interest to surgeons because of the classical case of the great Syme who by a memorable example pointed out for all time the way to deal with it. Circumstances may, however, at any moment render it impossible in the course of an operation for turning out the clot to rest content with applying a ligature to the bleeding gluteal artery, even though the bleeding may be stayed thereby, and the surgeon may find it imperative to proceed at once to tie the feeding trunk of the internal iliac artery. Such was the state of things in the case which I desire here to place on record.

A man, aged 44 years, but looking many years older, wasted, anæmic, and ill with a history of rheumatic fever in childhood and with physical evidences of cardiac and vascular disease, a coachman by occupation, was admitted to St. Mary's Hospital on Feb. 23rd, 1902. At the beginning of his illness five weeks before admission he had suffered some pain in the course of the right sciatic nerve with tingling in his toes, but he had no pain now. He had not been ill recently nor had he met with an accident, but one day on getting down from his box he had noticed a swelling in the right buttock. This swelling had steadily increased so that on admission it was of huge size, reaching from the crest of the ilium to below the great trochanter. It was fluctuant and non-pulsatile, while towards its lower end it became dusky in colour, and immediately above the trochanter there was some inflammatory redness. Believing that it might possibly be an abscess, with which ready-made diagnosis the man had been sent to the hospital, my house surgeon, Mr. A. Whitmore, made a small inch-long exploratory incision a couple of inches above the great trochanter, where the skin was red, but finding nothing except blood-clot immediately closed the wound. He acted, indeed, with excellent judgment. Per rectum it was thought that some swelling could be felt high up on the right side of the pelvis and that a vessel was beating over it. Personally, I was unable to satisfy myself of the accuracy of this observation. Abscess being excluded by the exploratory incision, the diagnosis clearly lay between ruptured aneurysm, simple hæmatoma owning no known cause, and new growth. So markedly fluctuant, however, was the swelling that new growth seemed to be out of the question, and the belief was held that we should in all probability have to deal with a ruptured gluteal aneurysm, and preparations for meeting any difficulty which might arise in the course of operation were made accordingly. This was undertaken on Feb. 25th, my colleague, Mr. Silcock, very kindly helping me.

The original exploratory incision was first laid open and then gradually enlarged in the upward direction. With a spoon and a stream of sterile water more than two pints of old and recent blood-clot were rapidly evacuated, and so vast was the cavity that of necessity the incision was by degrees extended from the crest of the ilium to below the great trochanter. From the depths of the cavity laminated clot was turned out, one large portion being spherical in form, and looking much as if it had at one time been part of an aneurysmal sac. Deeper clots and laminated fibrin being detached it was now for the first time obvious that active hæmorrhage was taking place from the sciatic notch. This was controlled by sponge pressure until all clot had been quickly removed and we were then able to see that blood came in spurts from within the sciatic notch, evidently from the gluteal artery itself. Happily, this bleeding was under complete control by the finger but the actual bleeding point could not be seen, and evidently lay deeply on the inner side of the bone. After several unsuccessful attempts to seize the bleeding point with pressure forceps, Mr. Silcock ultimately made a luckly hit with a pair of forceps bent at the end to a right angle and completely stopped the bleeding. It seemed to us both, however, that no reliance could be placed on these forceps for the permanent arrest of hæmorrhage, especially as the very awkward projection of the handles of the forceps from the wound made it impossible to secure them in such a manner as to be perfectly safe in the various unavoidable movements of the patient. His condition allowing it, it was therefore resolved to tie the internal iliac artery at once. With the man still lying on his side the abdomen was opened in the right semilunar line, a position which favoured the fall of the intestines out of the way towards the left. Exceeding thinness of the abdominal wall was, moreover, helpful in making the discovery of the vessel comparatively easy. The covering peritoneum having been incised a sirgle ligature of small silk was applied in the usual way. This transperitoneal ligature of the internal iliac artery had not indeed added much to the length of the operation and the condition of the patient when he left the table was exceedingly good, this being due, of course, in no small

measure to the efficient way in which the bleeding had been controlled. He rallied well and for three days gave promise of recovery. His temperature then suddenly rose to 103° F., pneumonia set in, and from this he died on March 2nd. Whether this was in any degree the result of septicity in the wound I cannot say, but it is quite certain that perfect asepsis was not maintained and perhaps in all the circumstances—the size and depth of the cavity and the great probability that the parts were septically inflamed before the operation—this is no matter for surprise. Nevertheless, it is deeply to be regretted because there had been no return of bleeding and at the necropsy the internal iliac artery from the site of ligature onwards into the gluteal artery itself was found firmly occluded by healthy clot. The peritoneal and abdominal wounds were soundly healed. There was grey hepatisation of the lower lobe of the right lung with extensive vegetations on the mitral and aortic valves.

The point of chief interest in this case is the necessity which arose in the course of the usual operation of turning out the blood-clot and aneurysmal remains of ligaturing the main trunk from which the diseased gluteal vessel sprang. In more accessible parts this would hardly have called for comment but in the case of the gluteal artery the surgeon cannot lose sight of the fact that the opening in the vessel may perchance be intra-pelvic and the application of a ligature impossible. It was a happy chance and nothing else that the bleeding point was in this instance secured by bent forceps on the inner side of the bone. Had we failed to secure it in this manner it would have been a matter of exceeding difficulty if not impossibility to stay the bleeding and the patient might have bled to death before the iliac artery could have been tied. I do not know how such a state of things could be foretold before the ruptured sac was laid open and the clots were turned out, and it is a question whether in the case of ruptured gluteal aneurysm it would not be good practice to secure the internal iliac artery before proceeding to deal with the aneurysm itself. Here it is that transperitoneal ligature comes to the surgeon's aid, for in comparison with the old method of reaching the vessel this procedure is easy of execution and without much risk. And if such a step involves departure from the principles which hold good in dealing with ruptured aneurysm it is surely justified by the anatomical arrangement of the vessels in this region of the body and absolves the surgeon from the necessity of following a law which may be here inapplicable and of no avail.

ON THE PRECIPITIN OF COBRA VENOM: A MEANS OF DISTINGUISHING BETWEEN THE PROTEIDS OF DIFFERENT SNAKE POISONS.

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PRELIMINARY ACCOUNT.

SINCE Bordet[1] in 1899 first demonstrated that the serum of a rabbit which was treated by intra-peritoneal injections of the serum of another species of animal acquired after a time the property of forming a coagulum or precipitum, when mixed with the serum of an animal of the same species, this phenomenon has been worked out by other observers[2] for the sera of many species of animals and for various other proteid substances. It is not my intention in this note to trace in detail the evolution of the subject up to the present day. It will suffice to mention that specific precipitins have been prepared for the sera of many species of animals and for such proteid substances as casein of milk, the albumin which occurs pathologically in urine, crystallised egg albumin, pure serum globulin from the sheep and from the bullock, and Witte's peptone. The research made with the precipitins of the latter four of these substances was among the last published works of the late Dr. Walter Myers. In a paper in THE LANCET[3] he showed that the precipitin prepared by injections of egg albumin had no action on the other proteids with which he worked—namely, serum globulin from the sheep, serum globulin from the bullock, and Witte's peptone. He found, however, that the precipitin of serum globulin from the sheep did form a slight coagulum with the globulin got from bullock's serum and that, *vice versâ*, the precipitin prepared with bullock's serum globulin precipitated to a slight degree the globulin got from sheep's serum. Myers also demonstrated that the precipitins are used up in the course of their action. He looked upon this fact as strong evidence that the action of these bodies is a chemical action.

It would appear, then, from these observations that we had at hand a means of distinguishing between various proteids and mixture of proteids, for there can be no doubt that this animal test is more delicate than any chemical method of discrimination at present available. Up to within a few months ago all workers on the precipitins of immune sera looked upon this reaction as practically a specific one. Thus, for example, it was thought that a precipitin prepared with human serum, while forming a slight precipitum with monkey's serum, especially with the serum of the anthropoid apes, gave absolutely no reaction with the sera of other animals more distantly related to man; and that the same law held good for the precipitin of horse's serum when tested with the serum of the ass, and of fowl's serum when tested with the serum of the pigeon, &c.

Quite recently, however, two French observers, Linossier and Lemoine,[4] have published a summary of their researches with the precipitins prepared for the sera of several species of animals. In a series of most interesting papers these workers have shown that the precipitins for proteid substances in general are not absolutely specific to any one chemical form of proteid, and, further, that the precipitin prepared for the serum of one species of animal is not absolutely specific for the serum of that species or even of allied species. Thus they found that a precipitin prepared by injections of the serum of an animal precipitates also the proteids in the saliva, in the semen, in the milk, and in the muscle juice of the same species of animal, and also that such a serum precipitin causes a certain amount of precipitation with sera of other species of animals. But they showed that while the reaction is not absolutely specific a marked degree of specificity is demonstrable, inasmuch as the precipitum obtained is less voluminous as the animal the serum of which is being tested is separated in the animal scale from the animal the blood of which was used for the preparation of the precipitin. They have shown, in short, that there is in this phenomenon a marked relative specificity. This relative specificity is apparent from the following two facts: (1) the minimum quantity of precipitin necessary to give a precipitum is much less in the case of the corresponding serum than in the case of other sera; and (2) the precipitum obtained is much more voluminous with the corresponding serum than with other sera. Further, these workers found that in order to give a numerical expression to this relative specificity it is only necessary to ascertain at what maximum dilution the different sera begin to be precipitated under the action of a known precipitin, the proportion of precipitin to diluted serum remaining the same in all the preparations. Thus working with a serum prepared with the blood of the ox they found that the precipitin obtained began to cause a precipitation when mixed with the following sera at the maximum dilutions of serum of ox, 1 in 5000; serum of horse, 1 in 300; and serum of man, 1 in 50. It follows, then, that in order to demonstrate the specificity of proteid precipitins the proteid which is being experimented with must be greatly diluted before an exact and trustworthy result can be obtained. In the case of sera these observers advocate that to get a specific reaction the serum to be tested should be diluted at least a thousand-fold. They show, further, that the test is so delicate that 0·01 milligramme of the proteid used for preparing the precipitin can be easily detected if a suitable amount of precipitin is brought in contact with this quantity. As it is,

[1] Annales de l'Institut Pasteur, 1899, pp. 225 and 273.

[2] Nuttall: Journal of Hygiene, vol. i., 1901, p. 367. Uhlenhuth: Deutsche Medicinische Wochenschrift, 1901, Nos. 16, 17, and 45. Wasserman and Schütze: Berliner Klinische Wochenschrift, 1901, No. 7. Tarchetti: Brit. Med. Jour., Epitome of Medical Literature, June 29th, 1901, p. 104. Grünbaum: THE LANCET, Jan. 8th, 1902, p. 143.

[3] THE LANCET, July 14th, 1900, p. 98.

[4] Comptes Rendus de la Société de Biologie, Tome liv., 1902, pp. 85, 276, 320, and 369.

however, evident for *a priori* reasons that the quantity of precipitin in a sample of immune serum must vary according to the degree of immunity obtained by the injections, it is unnecessary here to enter into the figures detailed by these observers of the amount of serum which they consider necessary completely to precipitate a given quantity of proteid and of the amount of proteid which can use up completely the total quantity of precipitin in a sample of immune serum.

Such, then, are the general principles upon which the specificity of this reaction depends. And while these two French workers hold that the reaction is not absolutely specific they consider that it is quite trustworthy as a means of distinguishing proteid substances from one another if strict attention is paid to the details of technique roughly outlined above. We shall see later, from the observations which I have to put on record, that these principles are well founded.

With this introduction I may now pass on to put forward the results which I have obtained, working with an immune serum prepared for pure cobra venom. For the preparation of this serum rabbits were the animals employed. The rabbits the sera of which I used in the experiments about to be detailed were treated with subcutaneous injections of pure unheated cobra venom over a period of from four to five months, the injections being made at intervals of about 10 days. At the time of my observations they were able to stand a quantity a little over four times the minimum lethal dose of venom. For the demonstration and measurement of the precipitation action of the serum on the solution of poison the sedimentation tubes and the technique devised by Professor A. E. Wright[3] of Netley were employed. The advantages of using these tubes, as against small test tubes, I found to be very great. By their means exact measurements and dilutions, either of serum or of venom solution, can be accurately accomplished; only a small quantity of serum is necessary; the resulting precipitum, when present, is easily seen; further, after the precipitum has completely settled at the bottom of the tube the clear supernatant fluid is easily obtained by merely filing off the end of the tube containing the precipitum. The tubes, however, should be of slightly greater diameter than those recommended by Wright for serum diagnosis. It may be noted in passing that the precipitum obtained with cobra venom is indistinguishable, both macroscopically and microscopically, from the bacterial deposit obtained when the organisms of typhoid and Malta fevers are agglutinated and sedimented under the action of their specific sera. There was no doubt of the purity of the snake venoms with which I worked. With the exception of the poison of *Heplocephalus curtus*, for which I am indebted to the kindness of Dr. F. Tidswell of Sydney, these were all collected, carefully dried, and stored under my own supervision. This precaution seems to me to be necessary, for a perusal of the literature of snake venoms shows one the great importance of working with pure venoms and of carefully differentiating the poison of one species from that of another, even when the species are closely allied. I have pointed out in previous papers that no conclusions as to the physiological action of any one kind of venom can be drawn from the investigation of the action of the venom of even a closely allied species.

We shall first consider, then, the action which a serum prepared in the manner which I have indicated has on cobra venom itself, and then pass on to see its effect when mixed in the same way with a few other varieties of snake poison. As a preliminary measure, however, it was necessary to ascertain if normal rabbit's serum contained any precipitin for cobra venom. I experimented with the sera of six normal rabbits, mixing these in two different proportions—namely, four parts to one part—and in equal parts with solutions of cobra venom of four different strengths—namely, 1 per cent., 0·1 per cent., 0·01 per cent., and 0·001 per cent. In practically all the tubes which were filled in with one part of 1 per cent. venom and four parts of serum either a trace of or a marked precipitum was obtained after 24 hours; in a few instances in which the serum and the 1 per cent. venom solution were mixed in equal proportions a mere trace of precipitum was observed. On the other hand, in not a single instance in which the weaker strengths of venom solution—namely, 0·1 per cent., 0·01 per cent., and 0·001 per cent.—were employed was any precipitum found after the tubes had stood for 24 hours. It would appear, then, that normal rabbit's serum contains a trace of a substance capable of causing a precipitum with the proteids of cobra venom, but that the presence of this substance is only demonstrable when the solution of poison used is a comparatively strong one. It is evident, therefore, that in order to demonstrate the specific precipitin which, as we shall see, makes its appearance in considerable quantity in the blood as a result of repeated injections of cobra venom it is essential to use comparatively weak solutions of the poison. With the sera with which I worked it is also essential, as we shall see, to use an excess of serum in order to get the best results.

Working in this way and employing, as I have said, Wright's sedimentation tubes for the purpose of measuring the proportions of serum and venom solution and for the purpose of appraising the result of the reaction, one observes a copious and well-marked precipitum when the serum of an immunised rabbit is brought in contact with a solution of cobra venom. A reference to Table I. of the protocols will show the result when solutions of cobra venom of strengths of 0·1 per cent., 0·01 per cent., 0·001 per cent., and 0·0001 per cent. respectively were mixed in varying proportions with cobra venom serum. In this table, also, for the sake of a comparison to be referred to later, the result of the similar reaction got with daboia venom and the same serum is included. Confining our attention, however, for the present to the precipitation reaction which this serum gives with cobra venom, it is evident from a study of the table that in order best to demonstrate this action an excess of such an immune serum as the one with which I worked should be added to a comparatively, but not too, weak solution of venom. Thus in those preparations in which two, three, or four parts of serum were mixed with one part of 0·1 per cent. and 0·01 per cent. solutions of venom a copious precipitum was obtained. When, however, the proportion of serum to venom solution was gradually decreased the precipitum became less and less and ultimately none was formed. With the weaker solution of venom—namely, 0·001 per cent., only a slight precipitum was obtained and that only when the serum was less in quantity than the venom solution. Finally, with the very weak solution of venom—namely, 0·0001 per cent.—no precipitum was formed at all.

Before proceeding to attempt to give a numerical expression of the amount of precipitin in the serum which was used for these experiments I have to draw attention to two facts of importance: (1) that the serum is active for those proteids in cobra venom which are incoagulable by heat; and (2) that heating the serum to a moderate degree does not affect the action of the precipitin. To demonstrate this first fact a 0·2 per cent. solution of cobra venom was divided into two portions; one portion was left unheated while the other portion was heated in a water bath at 75° C. for half an hour. The proteids coagulated in this way were then removed by filtration. The serum of a rabbit immunised with cobra venom was then mixed in different proportions with each of these two solutions after the manner which I have already described. The results of these experiments are detailed in Table II. of the protocols. From this table it will be seen that no difference was noticed between the precipita obtained with the filtrates containing the incoagulable proteids of the venom and the precipitate got with the solutions of the whole poison. As a like result was obtained with daboia venom, and for the sake of convenience and comparison, a similar series of experiments with this venom is detailed in this table. This will be referred to later. To demonstrate the second fact which I have stated above—namely, that heating to a moderate degree does not affect the precipitin of cobra venom—serum of a rabbit which had been treated with repeated injections of cobra venom was divided into two portions; one portion was left unheated, while the other portion was heated in a water bath at 55° C. for half an hour. The precipitation reaction of these two samples of serum was then tested side by side with a 0·1 per cent. solution of cobra venom. This series of experiments is detailed in Table III. of the protocols. From this table it will be seen that no difference was apparent between the preparations made with unheated serum and those made with heated serum. In this table also, for the sake of convenience, similar observations with the same sample of serum and daboia venom are included. Reference will be made to these observations later.

I have stated above that Myers found that the precipitins

[3] THE LANCET, July 5th, 1902, p. 11; Brit. Med. Jour., Feb. 5th, 1898.

with which he worked were used up in the course of their action and that he looked upon this fact as strong evidence that the action of these bodies is a chemical action. I have found also that the precipitin of cobra venom is completely used in the course of its action and that by estimating with what proportions of serum and venom solution of known strength this occurred a numerical expression could be given to the precipitation value of the serum. Thus, if a suitable proportion of serum and venom solution be mixed and left in contact for from 18 to 24 hours, so that a copious precipitum settles down to the bottom of the tube, it is found that the clear supernatant fluid contains neither precipitin nor precipitable proteid. I found that with the serum of the rabbit with which I worked this complete neutralisation took place when six parts of serum were brought in contact with one part of a 0·05 per cent. solution of poison. A reference to Tables IV. (*a*) and (*b*) of the protocols will show the method by which this fact was experimentally demonstrated. From these tables it will also be seen that when the serum was present in greater amount than six parts to one part of venom solution (0·05 per cent.) the supernatant fluid contained free precipitin, the quantity of this free precipitin depending on the amount of serum used, and, *vice versâ*, when the serum was present in less amount than six parts to one part of the poison solution (0·05 per cent.), the supernatant fluid contained free precipitable substances which were precipitated on the addition of fresh serum. If we take it, then, that six parts of serum were exactly neutralised by one part of a solution of venom of 0·05 per cent. strength, a simple calculation will show that 1 cubic centimetre of this serum—namely, the immune serum which I used in this experiment—would be neutralised by 0·083 milligramme of cobra venom as far as the precipitin was concerned. Until, however, I have obtained a serum for cobra venom of much greater antitoxic power than this serum I am unable to experiment with the view of ascertaining whether the precipitin value, estimated in this way, will serve as a method of standardising the serum for therapeutic purposes. Should this method be available, it seems to me that we shall have at hand a method of standardisation much simpler, easier to put into practice, and more exact than any method in which animal's lives are used as the index of the neutralisation point. For, instead of depending on a variable element—namely, an animal's personal idiosyncrasy to the poison—we shall have as our basis of observation a chemical reaction the result of which can be easily seen by the naked eye. Many more experiments, however, will have to be undertaken before any definite conclusions on this point can be arrived at.

From this brief preliminary account of the precipitin of the proteids of cobra venom it is evident that this reaction is of the same nature as the specific serum reaction to which I have referred above, and also strictly analogous to the reaction which Myers[6] described with the precipitins of white of egg and serum globulins.

We have now, in conclusion, to pass on and to show how this reaction can be used as a means of differentiating the proteids of one kind of snake venom from the proteids of any other variety. Up to now I have had at my disposal only the serum of animals immunised with cobra venom; I hope, at a later date, to extend these observations, using sera prepared with several other kinds of snake poison. I have tested this cobra venom serum with four other snake venoms—namely, (1) with the venom of *Daboia Russellii*, the Indian chain viper; (2) with the venom of *Echis carinata* or phoorsa, a small Indian viper; (3) with the venom of *Bungarus fasciatus* or banded krait, an Indian snake of the colubrine family; and (4) with the venom of *Hoplocephalus curtus*, the Australian tiger snake, also a colubrine snake. I have already incidentally drawn attention to the action of cobra venom precipitin on the first mentioned of these poisons. We shall consider immediately the results of the whole of these observations.

The technique which was used in these experiments was slightly varied from that which I have already described. This variation consisted in bringing the same proportions of serum and venom solutions of different strengths in contact with one another, the observations of the result being, as in the other experiments, appraised in Wright's tubes 18 to 24 hours after the preparations were put up. In one series of experiments three parts of serum, and in a second series two parts of serum, were mixed with one part of venom solution, which varied in strength from 0·1 per cent. to 0·001 per cent. The results of these two series of observations are recorded in Tables IV. and V. of the protocols respectively. As a control and for the sake of comparison with the daboia venom series, a similar series of observations with the same sample of serum and cobra venom, the poison which was used in the preparation of the serum, is included in each of these tables. A glance at these tables will show that the precipitin which is developed in the animal body as a result of injections of pure cobra venom has no reaction on three of the poisons with which I experimented—namely (1) the venom of *Echis carinata*; (2) the venom of *Bungarus fasciatus*; and (3) the venom of *Hoplocephalus curtus*. Two of the snakes—viz., *Bungarus fasciatus* and *Hoplocephalus curtus*—are colubrine snakes, while *Echis carinata* is a viper. Without entering at present into the consideration of the physiological action of these venoms compared with the action of cobra poison—a question which I shall take up in another communication—we can at once say from this precipitin test that the proteids which these three venoms contain have not the same chemical composition as the proteids of cobra venom. We have here, then, another example of the extreme delicacy of this biological test for proteids when compared with the crude methods of discrimination which have been available to physiological chemists up to the present day. This result further completely disproves Martin's[7] hypotheses—namely, that at least two proteid substances are present in all snake venoms: (1) a proteid substance which is coagulable by heat and which exerts its physiological action on the blood and heart; and (2) one which is incoagulable by heat and which kills by causing paralysis of the central nervous system; and that snake venoms only differ from one another in physiological action according as they contain more or less of one or other of these proteids—for the observations which I have just recorded definitely prove that not one of these three kinds of poison contains any of the proteid substances which are present in cobra venom.

Let us pass on, finally, to notice the reaction given with daboia venom and cobra venom serum. The problem which arises out of the fact that the serum prepared with cobra venom forms a coagulum with daboia venom as well as with its corresponding poison, is a problem which will require careful investigation. I do not, therefore, intend in the present note to go into this question beyond drawing attention to one or two points which suggest themselves from the data contained in the various tables of the protocols. A reference to Table I. of the protocols will show that when a 0·1 per cent. solution of both cobra and daboia venoms was used no difference was noticed in the precipitation reaction when varying amounts of the immune serum and of the venom solutions were brought in contact. Such a result would appear to warrant the conclusion that the proteids of cobra and daboia venoms were chemically identical. Now, in a recent paper,[8] along with Dr. W. Hanna, and in a paper which is in process of publication, I have definitely shown that the physiological action of cobra venom is quite different from the physiological action of daboia venom. I have shown that even the actions which these two venoms have on the red blood cells and on the coagulability of the blood plasma, which at first sight appeared of the same nature, can be shown on closer investigation to be quite distinct. It is also important in this connexion to point out, as was shown by Hanna and myself,[9] that Calmette's antivenomous serum does neutralise cobra venom but has no effect on daboia poison. If, then, this biological test should show on further investigation that the proteid constituents of cobra venom are exactly the same as those of daboia venom we must conclude that the proteids contained in these venoms are not the toxic constituents of the poisons. The results tabulated in Tables II. and III. go to support this hypothetical conclusion, for a glance at these two tables will show (1) that cobra venom serum forms a precipitum with the proteids of daboia venom which are incoagulable by heat, exactly the same as the precipitum given with the proteids of cobra venom which are incoagulable by heat; and (2) that heated cobra venom serum forms a precipitum with daboia venom in every way the same as that formed with

[6] Loc. cit.

[7] Snakes, Snake Poisons, and Snake-bites, Heime's Medical Supplement, Dec. 4th, 1896.

[8] Journal of Pathology and Bacteriology, 1902, vol. viii., No. 1, p. 1.

[9] THE LANCET, June 15th, 1901, p. 1661. Journal of Pathology and Bacteriology, 1902, vol. viii., No. 1, p. 1.

cobra poison. If, then, this test is a relatively specific test for proteids we have in all these data to which I have drawn attention evidence which suggests that the proteids of cobra venom are either identical with the proteids of daboia venom or, failing this, that they possess the same "haptophoric group." It may be noted that if the former alternative were established it would follow that the proteid substances which are precipitated in these reactions are not the toxic elements of the venoms.

On the other hand, when we come to look more closely into the results tabulated in Tables I., V., and VI., a slight difference is seen to exist between the reaction that the serum gave with cobra venom and that which it gave with daboia venom. This difference consists in the fact that with the same amount of serum a precipitum is formed with a weaker solution of cobra venom than is the case when daboia venom is used. This fact is shown best in the results detailed in Tables V. and VI. The difference certainly is not very great and it is just a question as to whether or not it is sufficient to warrant the conclusion that the proteids of the one poison are different from the proteids of the other venom, so different (granting that these substances are the toxic constituents of the poisons) as to lead one to expect the physiological actions of the two venoms to be so distinct as they are. I propose, however, to leave the problem in this position for the present, hoping that the experiments which are now in progress in this laboratory will settle the question one way or the other.

PROTOCOLS.

TABLE I.—*Experiments to show the Precipitation Reaction of Cobra Venom Serum on Cobra Venom and on Daboia Venom.*

The rabbit the serum of which was used for these experiments had received for over a period of four months repeated subcutaneous injections of pure unheated cobra venom. At the time of these observations it was receiving about four times the minimum lethal dose. The blood was collected in the bent capsules figured by Wright.[10] It was allowed to clot and the clear serum was pipetted off within two or three hours after withdrawal. Four different strengths of solutions of cobra and daboia venoms were employed—namely, 0·1 per cent., 0·01 per cent., 0·001 per cent., and 0·0001 per cent. These were made with normal saline solution (0·75 per cent.). The serum was brought in contact with each venom solution in varying proportions as indicated in the table. All dilutions, &c., were made by means of Wright's sedimentation tubes, in which also the mixtures were stored for from 18 to 20 hours at laboratory temperature (about 29° C.), after which time the observations were recorded. In this and in all subsequent tables the following signs are used: + signifies a copious precipitum; × signifies a marked precipitum; • signifies a slight or trace of precipitum; and 0 signifies no precipitum.

Parts of serum.	Parts of venom solution.	Result. C.V. ·1%	D.V. ·1%	C.V. ·01%	D.V. ·01%	C.V. ·001%	D.V. ·001%	C.V. ·0001	D.V. ·0001
4	1	+	+	+	0	0	0	0	0
3	1	+	+	+	0	0	0	0	0
2	1	•	+	•	•	0	0	0	0
1	1	×	×	×	×	0	0	0	0
1	2	•	•	×	×	•	0	0	0
1	3	•	•	×	×	•	0	0	0
1	4	•	•	•	•	•	0	0	0
1	5	0	0	•	0	0	0	0	0
1	10	0	0	•	0	0	0	0	0

TABLE II.—*Experiments to Compare the Precipitation Reaction of Cobra Venom Serum with whole Cobra and Daboia Venoms and with the Same Poisons from which the Proteids Coagulable by Heat had been Removed.*

The serum of the same rabbit as was used for the experiments detailed in Table I. was employed. A 0·2 per cent. solution of each poison was heated in a water bath for half an hour at 75° C. The coagulated proteids were then removed by filtration. The precipitation reaction of the serum with unheated and heated solutions of each venom was determined by a technique the same as I have already described.

Parts of serum.	Parts of venom solution.	Results. C.V. unheated.	C.V. heated.	D.V. unheated.	D.V. heated.
4	1	+	+	+	+
3	1	+	+	+	+
2	1	+	+	+	+
1	1	×	×	×	×
1	2	×	×	•	•
1	3	•	•	•	•
1	4	•	•	0	0
1	5	0	0	0	0
1	10	0	0	0	0

TABLE III.—*Experiments to Demonstrate the Effect on its Precipitation Reaction which Heating the Serum of a Rabbit Immunised with Cobra Venom has when Tested with both Cobra and Daboia Venoms.*

The serum of the same rabbit as was used in the series of experiments already detailed was divided into two portions. One portion was left unheated while the other portion was heated in a water-bath for half an hour at 55° C. The precipitation reaction of those two portions of serum was then tested side by side with cobra and daboia venoms (0·1 per cent. solutions). The same technique was used as in the previous experiments.

Parts of serum.	Parts of venom solution.	Cobra venom (0·1 per cent.). Unheated serum.	Cobra venom (0·1 per cent.). Heated serum.	Daboia venom (0·1 per cent.). Unheated serum.	Daboia venom (0·1 per cent.). Heated serum.
4	1	+	+	+	+
3	1	+	+	+	+
2	1	+	+	+	+
1	1	×	×	×	×
1	2	×	×	×	×
1	3	•	×	•	•
1	4	•	•	•	
1	5	0	•	0	0
1	10	0	0	0	0

TABLE IV. (*a*) *and* (*b*).—*Experiments to Determine what Quantity of Cobra Venom Serum was required exactly to Neutralise and Precipitate a Given Quantity of Cobra Venom.*

The serum used was got from a rabbit which had received repeated doses of pure cobra venom for over a period of four months. The strength of venom solution employed was 0·05 per cent. Two series of experiments were made.

In the first series varying proportions of serum were mixed with one part of the venom solution. The preparations were allowed to stand at laboratory temperature (about 29° C.) for 24 hours. The following was the result obtained.

Parts of serum.	Parts of venom solution.	Result.
16	1	+
14	1	+
12	1	+
8	1	+
6	1	+
4	1	+
2	1	×
1	1	×
½	1	•

In the second series of experiments the clear supernatant fluid in each of these tubes was got by simply filing off the end of the tube with the contained precipitum. The supernatant fluid was divided into two portions. To one portion was added an equal quantity of cobra venom solution (0·05 per cent.) and to the other portion there was added an equal

[10] Brit. Med. Jour., Feb. 5th, 1898.

amount of the same cobra venom serum as was used in the first series. The mixtures were stored in Wright's tubes. The result was observed from 20 to 24 hours after the preparations had been put up. It was as follows:—

Proportion of serum to venom solution in original preparation.	C.V. (0·05 per cent.).	Serum.
16-1	×	0
14-1	×	0
12-1	*	0
8-1	*	0
6-1	0	0
4-1	0	*
2-1	0	×
1-1	0	+
½-1	0	+

It is evident, then, that the neutralisation point was reached when six parts of serum were mixed with one part of the venom solution (0·05 per cent.).

TABLE V.—*Experiments with Cobra Venom Serum and other Varieties of Snake Poison.*

The serum of the same rabbit as was used for the previous series of experiments was employed. Two parts of this serum were mixed in Wright's sedimentation tubes with one part of each solution of each variety of snake venom as indicated below. The snake poisons used were: (1) cobra venom = C.V.; (2) *Daboia Russellii* venom = D.V.; (3) venom of *Echis carinata* = E C.V.; (4) venom of *Bungarus fasciatus* = B.F.V.; and (5) venom of *Hoplocephalus curtus* = H.C.V. The dilutions of venom were made with normal saline solution, the measuring being accomplished by means of Wright's tubes. Observations were recorded from 8 to 20 hours after the preparations had been put up. The following were the results obtained:—

Serum = 2 Parts; Venom Solution = 1 Part.

Strength of venom solution per cent.	C.V.	D.V.	E.C.V.	B.F.V.	H.C.V.
1·0	×	×	—	—	—
0·5	×	×	—	—	—
0·1	+	+	0	0	0
0·05	+	+	0	0	0
0·025	+	+	0	0	0
0·0125	*	*	0	0	0
0·01	×	0	—	—	—
0·0062	×	0	0	0	0
0·005	×	0	—	—	—
0·0031	*	0	0	0	0
0·0015	0	0	0	0	0
0·001	0	0	—	—	—

TABLE VI.—*Experiments with Cobra Venom Serum and other Varieties of Snake Poison.*

This series of experiments was similar to that tabulated in Table V., the only difference being that three parts of serum instead of two parts were mixed with one part of each dilution of each variety of snake venom as indicated below. The following were the results obtained:—

Serum = 3 Parts; Venom Solution = 1 Part.

Strength of venom solution per cent.	C.V.	D.V.	E.C.V.	B.F.V.	H.C.V.
0·1	+	+	0	0	0
0·05	+	+	0	0	0
0·025	+	×	0	0	0
0·0125	+	*	0	0	0
0·00625	*	0	0	0	0
0·0031	0	0	0	0	0
0·0015	0	0	0	0	0

Bombay.

"FOURTH DISEASE."

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THE definite existence of a "fourth disease" distinct from measles, scarlet fever, and rubella was first advocated by Dr. Clement Dukes[1] in a paper "on the Confusion of Two Different Diseases under the name Rubella (Rose-rash)." It is true that Thomas[2] after stating that according to his observations the exanthem of rubeola possesses a similarity to that of measles only and not the slightest to that of normal scarlet fever then wrote: "I am willing to admit the possibility of the existence of an equally important specific affection with a scarlatinous condition of the skin, although with all watchfulness I have as yet never met with such a form." Further, Dukes[3] himself may be said to have foreshadowed the possible existence of two distinct diseases in the latter part of the paragraph which says: "Another remarkable fact about rose-rash is that although ..... both varieties of rose-rash may appear in the same epidemic, as I have shown, yet the measles variety, like measles itself, usually occurs in large numbers, while the scarlet fever variety, like scarlet fever itself, always occurs to a much more limited extent." The definite statement, however, was not made until this writer, in the article first quoted,[4] said: "On the verge of the twentieth century we are only just discovering, and not merely surmising, that a 'fourth disease,' perfectly distinct from measles, rose-rash, and scarlet fever, is to be distinguished."

However much we may regret the introduction of a source of greater confusion into our already indefinite ideas of the distinguishing features of the commoner exanthemata, yet as Ker[5] says, "we should all be working in the pursuit of truth and the easiest way to settle a question is not to burke it but to discuss it openly." For a consideration, therefore, of this subject it is in the first place desirable to obtain a clear and detailed idea of the characteristics of the three diseases from which this is to be differentiated. The distinguishing features have, however, been already so thoroughly described and contrasted by Atkinson,[6] Edwards,[7] Dukes,[8] and others that it would be a work of supererogation to recapitulate all the points here. On account, however, of the apparently great similarity of most of the features of "fourth disease" with those of rubella and of the undoubted confusion which exists concerning this disease I think it is advisable that we should carefully consider some points which have a very important bearing on the differential diagnosis. Despite the fact that Thomas[9] concluded that the exanthem of rubeola possesses a similarity to that of measles only, it must be admitted that the majority of writers support the dual appearance of the eruption in this disease. Dukes himself[10] says: "In one epidemic of rose-rash the whole of the cases will resemble measles. In another epidemic of the same illness every case will resemble scarlet fever, as occurred in an entire series of cases in the two schools where I was consulted, comprising 16 cases at one school and 12 at the other. In another epidemic some cases will simulate measles and others scarlet fever." Watson Williams[11] says: "There is undoubtedly a tendency for rubella to breed true, so that in any given epidemic the cases mostly exhibit either the morbilliform or the scarlatiniform type, but the occurrence of the two types together leaves no room for doubt that such two types of one and the same disease do exist." He describes an epidemic of rubella, mild at first but later typically morbilliform, in which were two cases that would be termed "fourth disease" by those who believed the scarlatiniform variety to be a distinct affection. One at least, he says, exhibited all the characteristic features associated with that disease, and others showed every gradation between the morbilliform variety of rubella and "fourth disease." It is unnecessary, then, to adduce further evidence in support of the existence of the two types of rubella.

[1] THE LANCET, July 14th, 1900, p. 89.
[2] Ziemssen's Cyclopædia, 1875, article Rubeola.
[3] THE LANCET, March 31st, 1894, p. 791.
[4] Loc. cit.
[5] Practitioner, 1902, vol. lxviii., p. 156.
[6] International Journal of Medical Science, vol. xciii., N.S., 1887.
[7] Keating's Cyclopædia, Diseases of Children, article Rubella.
[8] Loc. cit. [9] Loc. cit. [10] Loc. cit.
[11] Brit. Med. Jour., Dec. 21st, 1901, p. 1797.

Now, in his original article advocating the recognition of a "fourth disease" Dr. Dukes says, when speaking of German measles (rubella): "I hope to prove to the satisfaction of the profession that this disease does not consist of two varieties of one kind, as I have hitherto contended with the profession in general, but that two definite and separate diseases have been confounded under one name," and Dr. Ashby,[12] in the discussion on the early diagnosis of the acute specific fevers at the meeting of the British Medical Association in 1901, "believed with Dr. Dukes that there were two diseases often included under the term "rubella," the common one with a long incubation period which mimicked measles, and a rare one only diagnosable when it prevailed in epidemics and with a short incubation which mimicked scarlet fever." More recently Dr. Dukes[13] states that the majority of cases of rubella begin and terminate with an eruption resembling measles, but that there is another set in which the eruption at the commencement is like measles and then finishes in patches like scarlet fever. "It is not, however, such cases to which the name of 'fourth disease' is applied." One cannot help agreeing with Killick Millard[14] that it is to be regretted that the expressions used in introducing the subject should have been so indefinite as to allow such an erroneous conclusion to be drawn.

A differential diagnosis must then keep in mind the following types of disease: (1) scarlet fever, (2) scarlatiniform variety of rubella, (3) morbilliform variety of rubella, and (4) measles. According to Dr. Dukes the rash of "fourth disease" presents a similarity to the eruption of scarlet fever only, so that types 3 and 4 do not need any further consideration. Turning, then, to type 2 one finds that this change in the appearance of the rash of rubella as it develops has been described by previous writers (Tonge-Smith,[15] J. Brownlee, and Marshall[16]). I have already pointed out[17] that the eruption occurring at first as discrete spots may later in its coalescence retain throughout an exaggerated morbilliform appearance, but that this characteristic though not always persisting, yet when it occurs is specially noted in certain regions (viz., the face, the limbs, and the buttocks), whereas on the trunk it tends to retain a punctate and scarlatiniform aspect. Moreover, when the exanthem is deep in colour the morbilliform appearance on the regions affected is still further enhanced, whilst with faint rashes, and usually in milder cases, it is distinctly more scarlatiniform. At the same time it must be remembered that the rash varies in intensity in different regions, so that it is essential to a correct appreciation to keep its polymorphic character constantly in mind.

Now, despite the description of the two types of rubella, it seems to me that there is a lack of definite information on the very point which enters most into the question. So far as I have been able to gather, writers are apparently unanimous that at the beginning of the attack the eruption is always morbilliform, consisting of discrete spots spread over the region affected. It is evidently not sufficient to say generally that the rash was scarlatiniform. Dr. Dukes admits that in its further development it may assume this character; one wants more especially to know what was the appearance at the onset. According to my own experience in the cases in which I have been able to note the appearance of the eruption, it has never had the close and even distribution of punctæ which alone would entitle one to use the term "scarlatiniform." Were I to meet with such a series of cases I should, with Thomas,[18] require indisputable evidence to be brought forward of their arising by contagion from the usual rubeola exanthem resembling measles, and *vice versâ*, to establish their identity. We may, then, ask with Ker,[19] "What room can we find for the fourth disease?" He himself says that it may, if it exists, occupy "one of two positions, either between measles and rubella or between the latter disease and scarlatina," and further admits that he would be inclined to expect it in the former position. Apparently, Sir William Broadbent[20] would also favour this choice, for in reference to the subject he writes: "I have said for many years that there were at least three kinds of measles." On the other hand, from the reasons which I have given I am equally disposed to the demonstration of its position between scarlet fever and rubella, and since according to the description of "fourth disease" one gathers that from the first the eruption is practically indistinguishable from the rash of scarlet fever, one must, admitting the possibility of its occurrence, carefully examine the evidence adduced in its support. This testimony is supplied by Dukes in the citation of three epidemics in his original article. One finds on reading his account that the factors on which his conclusions are based may be grouped under the following headings: (1) the inviolability of Cullen's law; (2) the fact that each disease possesses its own characteristic seed which is entirely *sui generis;* (3) inability to afford protection against the other exanthemata; (4) a suggested explanation of the real nature of the extensive mild epidemic of scarlet fever in 1892-93; and (5) clinical manifestations.

1. According to Cullen's law, "one attack of an eruptive fever entails immunity from a second attack in the same individual during childhood." The rule is not absolute, but Dukes is of opinion that "the insignificant exceptions may be regarded as scientific curiosities only." On the other hand, the general opinion is against the view of such an extreme rarity of relapses and second attacks of the exanthemata, and this opinion seems to have the support of many of the practitioners who have had exceptional facilities for the study of these diseases—viz., Foord Caiger, Washbourn, Killick Millard, and Ker. In this connexion Dukes would seem to infer that many of these are instances of patients with "fourth disease" contracting another infectious disease in the hospital. Caiger,[21] however, who, one must admit, is in a better position to judge, points out (*a*) that he has not seen the "fourth disease" transmitted to the patients in the scarlet fever wards; (*b*) that in his experience cases answering to the description do not contract scarlet fever; (*c*) that the cases which do contract scarlet fever are those in which one felt originally that one would like to isolate; and (*d*) that relapses in scarlet fever are rare, occurring in about 1 per cent. of the cases in the Metropolitan Asylums Board (incidentally he mentions that there was no increase during the years 1892 and 1893), whereas if they were cases of "fourth disease" one would expect them to occur more frequently. My own experience is exactly in accordance with the foregoing statements.

2. On this point I must confess myself at a loss concerning the exact meaning which Dr. Dukes wishes to convey. In so far as the micro-organism is concerned it is to be regretted that its specific nature will not assist us in this instance, since as yet its existence is a pure speculation, not only for the "fourth disease," but even for diseases with which it may be confounded. Moreover, from what little we know of the micro-organisms causing other infectious diseases, it is remarkable with what difficulty a clear line of demarcation can be made. One has only to refer, as regards diphtheria, to the different forms of true diphtheria bacilli, their occurrence in healthy situations, the difficulty in separating them from so-called pseudo-diphtheria bacilli, and as regards typhoid fever to the existence of Eberth's bacillus, bacilli of the Gaertner group, and of the coli communis type, in order to feel that from analogy the argument is by no means convincing. But from our total ignorance on this point we must presume that Dr. Dukes refers to the constant character of the manifestations by which we are enabled to detect its presence—i.e., to the symptoms diagnostic of the disease. Here, again, we are familiar with what is spoken of as the protean aspect of disease, and we are accustomed to believe that its varied character in different individuals, dependent doubtless to some extent on the variability in the complex surroundings, or what we call the soil in each individual, is a rule which must always be kept in mind. Writing of rubella in reference to this point Thomas[22] says: "Starting with the incontrovertible fact that anomalous eruptions of measles and scarlet fever occur the imperfectly characteristic nature of which is due solely to individual idiosyncrasies (which is proved by the fact they generate again, by contagion, cases which are perfectly normal) we must not expect of epidemic cases of roseola ..... that their exanthem should be in all cases of a precisely similar type."

3. Dr. Dukes informs us that the "fourth disease" gives no immunity to scarlet fever or rubella and similarly that these diseases afford no protection against it. The same fact

[12] Ibid., Sept. 7th, 1901, p. 594.
[13] Ibid., Nov. 2nd, 1901, p. 1379.
[14] Ibid., Dec. 21st, 1901.
[15] THE LANCET, June 9th, 1883, p. 994.
[16] Glasgow Medical Journal, March, 1897.
[17] Medical Chronicle, May, 1902.
[18] Loc. cit.
[19] Loc. cit.
[20] THE LANCET, July 21st, 1900, p. 289.
[21] Brit. Med. Jour., Nov. 16th, 1901.
[22] Loc. cit.

holds good for measles, but from lack of difficulty in the differential diagnosis there is no need for its further consideration. It seems to me that this statement is the crucial point in the whole argument and if proved would completely establish Dr. Dukes's claims. Having completed an account of the three epidemics he considers that he has proved the definite existence of "fourth disease," since he has shown (*a*) its occurrence concurrently with scarlet fever in the same epidemic; (*b*) that some patients had both diseases in the same epidemic; (*c*) that one patient had scarlet fever followed by "fourth disease"; (*d*) that several had "fourth disease" followed by scarlet fever; and (*e*) that although it has been confused with rose-rash and regarded as a mere variety of rubella this conclusion is fallacious, since nearly one-half the cases in an epidemic had already suffered from this latter disease within a year or two. The first four points are conclusions drawn from an epidemic which occurred some time previously and which the writer himself at that period regarded as one of the scarlatinal variety of epidemic rose-rash. In these circumstances, I think, one may legitimately question, despite the high authority of the writer, whether a sufficient degree of detail in events, connexions, and appearances, which would be required to establish its identity even now after we have been made acquainted with its characters, would be accumulated and retained over such a period of time as to warrant the extremely important deductions which have been made.

Concerning the first epidemic Washbourn[23] and Millard[24] consider that from the evidence adduced, beyond the statement that Dr. Dukes now regards them as instances of "fourth disease," there is nothing to compel one to differ from the original diagnosis of the scarlatinal variety of rubella. As Ker[25] says, the position would have been stronger if it had been noted what diseases the boys had had previously. While this would not have been final it would have been interesting to know how many had had rubella before and, further, whether Dr. Dukes was himself satisfied as to the authority for the previous history.

The second epidemic evidently consisted of two co-existent diseases which the two above-mentioned writers regard as scarlet fever and the scarlatinal variety of rubella, in agreement with Dr. Dukes's original diagnosis. I am of the same opinion as Ker, that "this would at any rate appear to be a reasonable view regarding it."

Concerning the third epidemic, from the facts observed in which the fifth point is deduced one finds that in it 19 boys were attacked, 42·1 per cent. of them having previously suffered from rubella. As pointed out in the leading article on the subject in THE LANCET of July 14th, 1900, p. 114, this epidemic affords the strongest proof of the existence of a "fourth disease." On account of the high percentage of previous attacks of rubella it is impossible to imagine them as instances of this disease, since, though relapses have been described, yet second attacks are practically unknown, or at any rate undescribed. On the other hand, one is struck by the facts that in these cases the rash was quite indistinguishable from scarlet fever and that desquamation was often copious. Further, the almost continuous development of the cases during a period of 18 days strongly suggests a short incubation, whereas Dr. Dukes informs us that the "fourth disease" possesses a long incubation period practically identical with rubella. Finally, one notes that scarlet fever had not occurred previously in a single instance. In such circumstances the difficulty of excluding the diagnosis of scarlet fever is very great, and one finds that it seems to have been dependent on the following facts: (*a*) the occurrence of a very full rash without markedly accelerated pulse, or marked rise in the temperature; (*b*) the absence of peeling of the tongue about the fourth day; (*c*) the absence in some cases apparently with an abundant rash of subsequent free desquamation; and (*d*) the absence of sequelæ and spreading of the disease (with one exception) though the patients were removed from bed after five days and allowed to go out after eight days. I must confess myself in sympathy with previous writers who are of opinion that these points do not carry conviction that the disease was not scarlet fever. On numerous individual occasions I have met with undoubted cases of scarlet fever exhibiting these peculiarities, and it seems to me that the only unusual feature is the uniform persistence of the type throughout the 19 cases, though as stated in the leading article which I have mentioned a "remarkable constancy of type is occasionally observed in connexion with a localised prevalence of scarlet fever."

4. In a previous article in THE LANCET Dr. Dukes[26] hazarded the query whether the extensive but non-fatal epidemic of scarlet fever which raged throughout the country in the autumn of 1892 and the spring of 1893 was not really to a large extent an epidemic of the scarlatinal variety of rubella, and more recently, having considerably altered his opinion about previous epidemics of this disease, he naturally inquires whether it was not really to a large extent an epidemic of the "fourth disease." It seems to me that in such circumstances, the disease having been diagnosed as scarlet fever, the most conclusive evidence ought to be obtained from the experience in the various fever hospitals during that period. In this respect, as I have already mentioned, Caiger informs us that the percentage occurrence of relapses after scarlet fever showed no alteration at that time, and he further adds: "Were I to come across even a short connected series of such attacks as would constitute a limited epidemic in a ward inhabited by patients convalescent from undoubted scarlet fever—and such outbreaks should be common enough surely if Dr. Dukes is right as to its prevalence, infectivity, and the frequency with which it is erroneously admitted into the scarlet fever wards—I would at once be prepared to register my allegiance to the "fourth disease." Such an occurrence, however, he has never yet succeeded in observing. It seems incredible that such an extensive epidemic of another disease could have occurred, and by admission to the various fever hospitals have been submitted to special scrutiny, running the risks, too, of giving and receiving infection, without its identity being discovered. I cannot help feeling that the inclusion of such a suggestion is a distinct weakness on Dr. Dukes's part. In this place also when laying stress upon the importance of the experience in large fever hospitals, and knowing the relatively large number of doubtful and very mild cases which are certified for admission, I must most strongly enter a protest against the statement made by Dr. Dukes[27] that this experience "is one-sided, as slight cases of scarlet fever are not sent."

5. Turning now to the symptomatology as given in the tabular list, we find that in this respect "fourth disease" and rubella appear to be very closely allied. In both diseases the premonitory symptoms, the seasonal prevalence, the period of incubation, the subjective sensations, the condition of the throat, eyes, glands, urine, tongue, pulse, and temperature, the course of the illness, and the absence of sequelæ are practically identical. The only distinctive points of difference apparently concern the rash, the desquamation, and the period of infection. Concerning the exanthem, in contrast with the eruption seen in rubella, Dr. Dukes says that in "fourth disease" it "will cover the whole body with a considerable diffuse rash in a few hours." Further, its hue is bright rosy red and it is raised somewhat from the surface of the skin. As pointed out by Ker it is unfortunate that there is no mention of its occurrence on the face. We feel bound to infer that it must be absent, though Weaver[28] specially draws attention to its appearance in this situation. As regards desquamation in rubella it is absent or branny, whereas in "fourth disease" it may be slight or complete. Its degree is stated to have no relation to the intensity of the eruption, though the slight rash is usually accompanied by little or no desquamation. On the other hand, even when free it occurs mostly in small scales. Rubella seems to be most infectious in its earliest stages, but according to Dr. Dukes "fourth disease" is not so very infectious at that period. Finally, it is stated that rose rash, like measles, occurs in large numbers usually, whilst "fourth disease," like scarlet fever, is met with oftener in smaller epidemics.

It must be remembered that these slight differences are drawn from a consideration of three epidemics which, as the late Dr. J. W. Washbourn[29] has said, are assumed to have been necessarily of the same nature, though such an assumption from the evidence adduced is quite unjustifiable. It may be that the variety in the manifestations of "fourth disease" itself is due to differences in the three epidemics. Thus it would be interesting to know the condition of the face as regards the exanthem in the first two epidemics which were originally diagnosed as rubella

[23] Brit. Med. Jour., Dec. 21st, 1901.
[24] THE LANCET, Nov. 3rd, 1900, p. 1304.
[25] Loc. cit., p. 153.
[26] THE LANCET, March 31st, 1894, p. 791.
[27] Brit. Med. Jour., Nov. 2nd, 1901.
[28] Dublin Medical Journal, June, 1901.
[29] Brit. Med. Jour., Dec. 21st, 1901, 1840.

and in the third epidemic which, as already stated, could not possibly have been examples of this disease. Similarly concerning the desquamation, one would like to have a detailed description with special reference to a separation of the different epidemics. Necessarily such facts as its slight infectiousness in the early stages and its tendency to occur in limited numbers are less easy of corroboration or refutation, though if deduced from the more carefully observed third epidemic it may be remarked that they are quite in agreement with its suggested mild scarlatinal nature.

Reviewing, then, the evidence upon which the differentiation of a "fourth disease" has been based, I think that it must be admitted that more conclusive details must be brought forward before we can feel satisfied that its definite nature has been distinguished. But I am far from denying its existence.

Manchester.

A CASE OF NASAL VERTIGO SIMULATING EPILEPSY.

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With Supplementary Notes by W. J. PROCTER, M.B., B.S. LOND.

TOWARDS the end of November, 1896, a man, aged 40 years, attended at the ear department of the London Hospital with the following statement of his case furnished by Dr. W. J. Procter, of Great Bookham, Surrey: "The patient came to see me in September, 1896, complaining of fits. He stated that his first fit occurred at Christmas, 1895, when he was brought home insensible, very cold, and with his face dusky. He was seen by a neighbouring medical man but had recovered consciousness before his arrival. He remained in a weak state for some time and could not bear a noise. The next attack happened during haymaking in 1896; he was again brought home insensible and remained so for 15 minutes, his face and general condition being the same as after the previous attack. From that time to September he was under treatment but had several fits. It was about this time that I (Dr. Procter) first saw the patient and was led from his remarks to suspect nasal disease. This suspicion was confirmed on examination of the nose, there being marked hypertrophy of the middle turbinated bones, more especially on the right side. At the wish of his employer he was sent to a general hospital, being made an in-patient on the medical side. Here the nasal condition was dissociated from the symptoms and the fits, regarded as epileptiform in character, were referred to an attack of sunstroke from which he had suffered 15 years previously. He remained an in-patient for a fortnight, during which time he had two seizures, and was then treated as an out-patient for seven weeks. The attacks occurred now almost daily, his memory became defective, and he wept frequently. On one day he had three attacks in which his wife states he lay like one asleep, except that his throat got full and his eyelids twitched. On recovery he was extremely prostrate and excitable, the least contradiction bringing on an attack. There was some evidence of an antecedent aura, as he knew when a fit was coming on, but could not describe the feeling."

When I (Dr. Woakes) examined the patient at the hospital on the first-named date he was in feeble health and his spirits were very depressed. Nasal examination showed enlargement of both middle turbinated bones; the left to a slight extent only, while the right presented a firm, nodulated tumour, occupying the anterior ethmoid region of the nostril from its outer wall to the septum. So firmly did it press against the latter that it was impossible to pass the loop of a snare between the opposed surfaces. It was therefore removed with my cutting ring forceps. The sections showed expansion of the intertrabecular spaces but no considerable cyst or cavity. He attended several weeks as an out-patient, when feeling quite well and having had no return of the attacks he discontinued his visits. In the early part of the year 1901, some four and a half years after the operation, Dr. Procter reported on his condition that he "had not had a single attack since the operation and described himself as 'not like the same man.'"

Up to this time it does not appear that Dr. Procter had ever actually witnessed one of these attacks, but there seems to have been no doubt in the minds of those physicians who did observe them that they were of an epileptic character—a quite justifiable view of the case considering the absence of any other generally recognised alternative class of disease to which it might otherwise have been referred. Three symptoms, however, mentioned by Dr. Procter as associated with the fits seemed in my mind to differentiate this case from one of true epilepsy and to transfer it to the group of vertigos due to disturbance of the equilibrating apparatus of nasal origin, an opinion which the sequel tends strongly to confirm. The three symptoms above referred to are: (1) hyperacousis, indicated by the distress occasioned to the patient by the occurrence of loud noises and evidencing implication of the cochlear portion of the octavus nerve; (2) the tendency to uncontrollable weeping; and (3) loss of memory. These symptoms, but especially the last two, are shown by experience to be in constant association with chronic forms of vertigo of nasal origin. They point to extension of the reflexes to the vestibular branch of the octavus supplying the end organs of equilibration. That these symptoms were the outcome of reflex irritation and were not due to central lesion is evidenced by their immediate and complete cessation following removal of the exciting cause.

After an interval of over four years, during which time the patient had no recurrence of the symptoms above detailed, I was informed by Dr. Procter in July, 1901, that the man had recently experienced "one very bad seizure and several slight ones." A few weeks afterwards he had the opportunity of witnessing an attack and was good enough to send me the following description of it. The patient "lay as if he were asleep with no convulsive movements of the limbs. During this time there occurred several violent contractions of the lower jaw. The jaw moved up and down so quickly and violently that the room on the floor of which he was lying quite shook. There was also violent pulsation of the carotids. The skin was warm and there was no marked rigidity of the body." Particulars of other attacks occurring at this time and showing variations of the symptoms in different seizures state that "he always knew when an attack was coming on and generally managed to sit or to lie down. There was a sort of premonitory aura which the patient described as a cold chill starting in the feet and passing up the body to the head, when he experienced a darting pain and became unconscious. The period of unconsciousness varied from 15 minutes to two or three hours. The face was pale. Sometimes the eyes were open and the eyeballs rolled (nystagmus), but more frequently the eyes were shut. The breathing was always quiet. There was no struggling and no twitching of the face or limbs. These in some of the attacks became very stiff, so that he could be lifted without the joints bending. If the attack was of considerable duration the skin became very cold. There was no loss of control over the sphincters and he never bit his tongue. Recovery was gradual, the mind being quite vacant at first, and he was quite oblivious to what had happened during the attacks. Catalepsy and malingering were suggested to the minds of the medical men who attended him, but both were rejected as inapplicable to the case."

I saw the patient again in the autumn of 1901. The ethmoid region of the nose had considerably changed as regards the left middle turbinal. In the interval of four years the disease in it had developed to such an extent that it presented much the same enlargement as that of the right side in 1896. It differed, however, from it inasmuch as the enlarged osseous structures were covered with abundant soft proliferations; especially were these abundant on the inner surface adjacent to the septum. The stump of the right turbinal had not materially changed since the operation in 1896. It was therefore inferred that the recrudescence of the symptoms was due to the subsequent morbid development of the left turbinal. On Nov. 13th, 1901, the patient was admitted to the London Throat Hospital under the care of Mr. Claud Woakes who ablated the entire left middle turbinal bone as well as the stump on the right side under anæsthetics. On the third day the patient was up and about the ward, no symptoms whatever following the operation. He left the hospital and returned to his home on Dec. 6th, 1901. In reply to recent inquiries Dr. Procter

quotes from the steward of the estate on which the patient is employed: "He has not had any more fits since his last operation. He seems to be quite well; much better than I have ever seen him before."

This case may be regarded as an extreme type of a class of which there are many examples—that is to say, of vertigo of nasal origin, with its varied and often curiously puzzling phenomena. Though constituting a group of disease which is *sui generis* and quite distinct from epilepsy it sometimes simulates one or other of the forms embraced by this latter term. It has, however, these advantages over true epilepsy, the existence of a recognisable *causâ causans*—viz., ethmoidal disease and its almost certain cessation when this disease is radically dealt with.

It would be advantageous to determine the exact area within the nostrils irritation of which will induce epileptiform symptoms. It must be granted that the evidence bearing on this point is not quite conclusive. In Dr. Procter's patient this area was recognised as the portion of the septum nasi, including the septal nerve traversing it, against which the mass of diseased spongy bone impinged. But I have on record other cases in which irritation of the same portion of the septum was associated with quite other symptoms. Thus one patient who had for weeks been the subject of incessant hacking cough, as soon as a mass of granulation tissue was pressed away from the septum experienced immediate cessation of the cough, which cessation remained permanent on destruction of the growth by the cautery. Another example occurred in a sufferer from chronic asthma, in whom a grave attack of suffocative dyspnœa was relieved even during the process of cauterising a soft mass which touched the septum in the situation indicated. Respecting these latter examples it is to be observed that the symptoms were excited by soft growths which tickled rather than pressed upon the septal mucous membrane. In the numerous instances of vertigo occurring concurrently with the presence of ethmoid disease the middle spongy bone has usually assumed the character of a hard mass more or less resembling that above described as existing in the present case.

Of growths presenting the characteristic of great hardness by far the most remarkable in my experience occurred in a man, aged 38 years, who was sent to me for the treatment of nasal polypus. Underlying a covering of polypi in the left nostril was a firm mass corresponding in situation with the left middle turbinal bone and tightly wedged between the septum and the outer wall of the nose. It was removed entire by means of the curved gouge and weighed a few hours thereafter 93 grains. The whole mass was solid, the inferior half being of ivory density and hardness, the remainder being finely spongy.[1] (It is necessary to remind the reader that the pathological condition just described is quite an exceptional one. For though exostosis in minor degrees is not by any means rare in the inferior turbinals this is the only instance of its presence in the middle spongy process that has occurred to me in 25 years' experience of nasal surgery. The history of this patient, moreover, suggests that the disease was congenital, or at any rate that it commenced soon after birth—the polypi being a much later development.) The reflexes excited by the presence of this mass differed from any of those exhibited in the foregoing cases. From earliest childhood this patient had been subject to severe attacks of gastric disturbance which had recurred with but little variation up to the time of the operation. The attacks commenced with shivering, followed by vomiting and sweating, and left him in a state of great prostration; he was never free from uneasiness in the region of the stomach and suffered much from frontal and basal headache. He experienced one or more such attacks every week and they lasted from two to three days. It is not surprising that in consequence of this life-long affliction his education had been so far neglected that he could neither read nor write, though able to participate in the practical side of a large business. After removal of the mass in question these symptoms ceased entirely, and with the exception of one slight recurrence during convalescence from the operation he has since been quite free from them. This patient reports himself every year or two and when last seen was the picture of robust health.

So far the cases thus briefly cited afford no decisive clue to the exact area of the Schneiderian membrane, irritation of which is responsible for the symptoms. Neither do they afford definite information respecting the physical nature of the growth as determining the character these will assume. The one point they do establish is the potentiality of certain forms of nasal disease to induce a variety of symptoms, usually of grave aspect and of long continuance. That these sometimes approach closely enough to the epileptiform state to be easily confused with it is apparent from the case first above reported. Possibly its record will be found to contain some details which may aid in the differential diagnosis of such occurrences in the future.

Harley-street, W.

[1] Examined and reported on by Dr. E. B. Waggett in June, 1894.

A CASE OF

ACUTE MENTAL DISORDER, PROBABLY TOXIC IN ORIGIN, SECONDARY TO INFLUENZA:

RESULT OF THE NECROPSY PRACTICALLY NEGATIVE, EXCEPT THAT THE BACILLUS DIPHTHERIÆ WAS FOUND IN THE BLOOD.

BY ALICE N. V. JOHNSON, M.D. BRUX., L.R.C.P. & S. EDIN., D.P.H. CANTAB.,

AND

EDWIN GOODALL, M.D., B.S., M.R.C.P. LOND.,

JOINT COUNTIES ASYLUM, CARMARTHEN.

A MARRIED woman, aged 43 years, was admitted into the Joint Counties Asylum, Carmarthen, on May 21st, 1902, suffering from an acute confusional condition. It was her first attack and had lasted for from three to four months. At Christmas, 1901, she had a severe attack of influenza (this was believed to be correct by the medical man who subsequently attended her), after which she became gloomy and depressed, eating and sleeping little. In March, 1902, she became very restless, excitable, and destructive, tearing her clothes and rushing about the house attacking people if they interfered with her. These symptoms increased until she was admitted. One sister suffered from "fits." Otherwise there was no family history of mental or nervous disease. The patient was described as of temperate habits and this was borne out by the necropsy.

On admission the patient was very restless, resistive, hostile, destructive, and dirty in her habits. She was very noisy and shouted incoherently day and night. She was very exalted in her ideas, made mistakes in identity, had hallucinations of vision, and freely expressed delusions of persecution. She was quite unconscious as to time and place and could not answer any questions. She was a strong, well-nourished woman. Her trunk and limbs were covered with bruises; her face, hands, and feet were cyanosed. She had some old aortic regurgitation and the heart was enlarged. Both eyes were covered with old interstitial keratitis. She had marked tremors of the lips, tongue, and hands. She refused to walk. Subsequent examination pointed to an inability to walk owing to weakness of the legs. Her pupils were equal in size, regular in contour, moderately dilated, and sluggish in reaction to light and to accommodation. The lungs were normal. The teeth were very bad and the gums were inflamed. The tongue was clean and the bowels were well open. The patient struggled too much to allow a view of the throat. There was no indication for using the gag for this purpose. A diagnosis of acute confusional state, possibly a phase of dementia paralytica, was made, the causation being probably influenza. Prognosis: "Probably fatal."

On May 22nd the report was that she had passed a very restless night and was very noisy, although she had been given hypodermically five minims of a ¼ per cent. solution of liquor hyoscyami. She took all her food. She continued in this muttering, unintelligible condition, with restlessness, but taking her food well, until the 27th. A large abrasion appeared over her sacrum the result of banging herself on the bedstead. The tongue became very dirty, the gums were covered in sordes, and the breath was very foul. Sleep was very broken. On the 28th moist sounds were heard over both lungs; the pulse was very quick and irregular; there was no increase in temperature. She was placed on fluid diet, which she took well, and on carbonate of ammonia and

strychnine every four hours. She died at 9.50 A.M. on the 29th.

Necropsy.—A post-mortem examination was made at noon on May 30th. The body was well nourished; there were no superficial lesions. The calvarium was of normal thickness and fairly dense; no exostosis was present. The dura mater was adherent anteriorly. The convolutions were normal with regard to size and arrangements. The pia mater peeled easily; some slight opacities were present over the sulci; otherwise the leptomeninges were normal, there being only slight increase in vascularity. The basal arteries and ventricles of the brain were normal. The mid-brain and cerebellum were normal. Vascularity of the grey and the white matter of the brain was only slightly increased. There were no focal lesions. The left ventricle of the heart was hypertrophied and the myocardium was friable; slight atheroma of the aorta was present and the aortic cusps were thickened. There was some slight congestion of both lungs. The pharynx and the larynx and trachea were very congested. Some old mechanical congestion of the liver was present and the gall-bladder was distended. The spleen and alimentary canal were normal. In both kidneys the capsule was adherent, but they were normal in other respects. The peritoneum was normal. As regards the uterus there was a polypus at the internal os and some old endometritis was present; the ovaries and tubes were normal.

Some small pieces of brain were immediately frozen and sections were stained with aniline blue-black and examined. They showed some slightly increased vascularity but nothing else was noted. A tube of blood serum was inoculated with strict antiseptic precautions with some blood from the right side of the heart, and another with cerebro-spinal fluid from the lateral ventricle. Both tubes were incubated at 35° C. On June 1st and 2nd no growth was present on either tube. On the 3rd there was a slight fine growth on the tube inoculated with the heart's blood. A film was made and a fairly long bacillus with clubbed ends was demonstrated, staining with simple stain and with Gram's method. No growth was present on the tube inoculated with cerebro-spinal fluid. On the 4th both tubes were sent up to Dr. D. N. Nabarro of University College, London, who kindly made a subculture and examined films, and reported that the growth was a pure growth of the bacillus diphtheriæ and that the tube inoculated with the cerebro-spinal fluid showed no growth at all. The medical man who certified the patient was asked if there were any diphtheria near her home. He replied: "There has been none in the immediate neighbourhood as far as I know, but plenty of it at distances varying from two to five miles away."

Remarks.—Clinically the condition is best described as acute confusional insanity. The necropsy negatived dementia paralytica and acute delirious mania. The patient appears to have been the subject of toxæmia, though the precise nature of the toxic agent is obscure. The record of the mental disorder dates from the supposed attack of influenza, although it is rather remarkable that there should have been marked exacerbation of mental symptoms, without any recrudescence of the disease, from two to three months after their appearance. Again, the patient's physical condition was good (she was a well-developed, powerfully built woman), not that which one would expect to find in an individual suffering from influenza or its after-effects. The negative result of the necropsy, beyond the slightly increased vascularity of the brain-substance and the cardiac changes, was very remarkable. There was nothing in the respiratory tract to raise the suspicion of diphtheria, although certain parts were much congested.

As there had been no question of diphtheria during life no swab-preparation was made. Indeed, there was no thought of diphtheria at the necropsy and tubes were inoculated from the blood and cerebro-spinal fluid on the possibility of finding some organism which might be held accountable for the toxæmic symptoms manifested. It is a remarkable fact that such acute mental disorder should have existed with such trifling macroscopic evidence of disease in the brain and its membranes. Microscopically Nissl's method was unfortunately not used, but the aniline blue-black method showed only slightly increased vascularity.

As regards the presence of the bacillus diphtheriæ in the blood observers have pointed out that this is sometimes found in the organs (lung, liver, &c.) post mortem, and it is conjectured that the bacillus has, in such cases, passed into the blood-stream after death. This occurrence, however, is, as far as is known, very rare. The patient may have had diphtheria, and this disease may have been the cause of her later mental symptoms. In addition to the organism in the blood there were the facts of the congestion of the upper air passages, the apparent inability to stand, and the prevalence of diphtheria in the neighbourhood of her home.

Appendix.—Some sections from the parietal region, that had been hardened in Müller's fluid and stained with Kulschitzky's hæmatoxylin solution, were examined microscopically. The tangential fibres and the superradiary were found to be scanty and degenerate.

A Mirror of HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

NEW HOSPITAL FOR WOMEN.

A CASE OF PLEURO-PNEUMONIA SIMULATING ABDOMINAL DISEASE.

(Under the care of Dr. JANE H. WALKER.)

WE have drawn attention elsewhere (p. 446) to the risk which exists of mistaking intrathoracic disease for a serious affection of some abdominal viscus, and in this connexion the following case is of great interest, for the history of the patient and the course of the disease pointed very clearly to gastric ulcer, yet the morbid condition present was a pneumonia with a localised pleurisy.

A board school teacher, aged 25 years, was admitted into the New Hospital for Women on May 24th, 1902, complaining of anæmia. She was in her usual health till September, 1901, when she began to grow breathless and pallid and to have swelling of the legs and abdomen, puffiness under the eyes, noises in the head, and giddiness. She had a cough and brought up some expectoration which was occasionally blood streaked. In February, 1902, she had influenza and went to Worthing for five weeks to recruit her health but came back no better. She did her work as a teacher till her admission into the hospital, but she was evidently considerably ill, being constantly sick and suffering from most obstinate constipation. On inquiring further into her past history it was ascertained that she had an attack characterised by all the symptoms of gastric ulcer six years before when she was in Charing Cross Hospital and again a second seizure of the same nature three years since. She had pleurisy as a child but no other illnesses bearing on the case.

On admission it was noted that she was very anæmic and was very well nourished, her weight having increased by 14 pounds during the past year—i.e., during the time of her increasing illness. She had hæmic bruits over the cardiac area. No abnormal signs in the lungs were detected. The temperature was 102·4° F., the pulse was 112, and the respirations were 28. The abdomen was somewhat distended but it moved fairly well. There was slight tenderness on pressure on the right side, most marked in the right iliac fossa, where there was some increased sense of resistance. The note was resonant all over and there was no dulness in the flanks. The blood count showed very considerable diminution of hæmoglobin and some decrease of blood cells and no leucocytosis.

From admission on May 24th to the 31st it was noted that the patient's temperature went up to points varying from 103° to 105°. Suddenly and unexpectedly at the same time the pulse-rate varied from 90 to 128 and the respirations from 18 to 54, neither pulse nor respiration having any direct relation to the temperature. Her chest, which was carefully examined every day, showed no abnormal signs. On June 1st, on the advice of Dr. Walker's surgical colleagues who regarded the case as probably one of abscess in the abdomen either in connexion with the appendix or tracking down from a perforated ulcer of the stomach, it was decided to make an exploratory incision. Accordingly, on

June 1st, under ether as the anæsthetic, this was done and the abdominal and pelvic viscera were carefully examined. Beyond a very small quantity of clear serous fluid in the abdominal cavity nothing abnormal was found. The right lung was percussed while the patient was anæsthetised and no dulness was found. A large exploratory needle was passed into the right pleura and a small quantity of blood was drawn off. This was subsequently examined bacteriologically and no organisms were present. On the following day impaired breath sounds were noticed at the right base and on the next day friction was heard. During the following week the patient had several attacks of breathlessness and also on several occasions the temperature reached a high level—105·8° being once noted. The signs in the chest gradually developed, giving those of a limited pleuro-pneumonia, some muco-purulent material being expectorated which was examined for both tubercle bacilli and other organisms with a negative result. The signs in the lung gradually cleared up and when the patient left the hospital on July 16th slight impairment of the note at the right base and prolonged expiration at the right apex were all that remained.

Remarks by Dr. WALKER.—The above case belongs to the class described by Mr. H. L. Barnard in his interesting paper published in THE LANCET of August 2nd, p. 280. It is worth recording both from its intrinsic interest as well as from the fact that it is another case of a kind where a mistaken diagnosis is not impossible, the consequences of which might be most deplorable. The case is obviously one where a correct diagnosis was extremely difficult. The symptoms and previous history of abdominal trouble, the vomiting, pain, tenderness, and localised resistance all pointed to abdominal disease. The chest signs were negative and so clearly was the possibility of chest mischief before the mind that the lungs were daily examined, but nothing abnormal was detected nor were the respirations unduly quickened.

LIVERPOOL ROYAL INFIRMARY.

TWO CASES OF "RELAPSING" GASTRIC ULCER.

(Under the care of Dr. J. HILL ABRAM and Mr. W. THELWALL THOMAS.)

THE value of surgery in intractable ulcers of the stomach and duodenum is very clearly shown by the following two cases. The tendency to cicatrisation in gastric ulcers varies in different cases, but that some heal spontaneously there can be no doubt. According to Einhorn,[1] 50 per cent. of all cases of gastric ulcers heal completely without any severe complication but a large proportion require active surgical treatment.

CASE 1.—A spinster, aged 42 years, was sent to Dr. Abram by Mr. R. A. Jones of Holywell on Dec. 8th, 1900. She had always been delicate. In 1896 she had a bad attack of gastric trouble which lasted for 18 months and recurred at short intervals until October, 1900, when severe pain in the stomach and back supervened and was accompanied by vomiting. The vomited material was copious (two pints). On admission to the Liverpool Royal Infirmary she was emaciated, slept badly, and complained of headache, dizziness, and pain in the stomach. The molar teeth were greatly decayed in both upper and lower jaws. The tongue was dry and there was a constant bitter taste in the mouth. Ingestion of food caused dull aching pain in the stomach, which persisted until vomiting occurred. The vomited material was copious, smelling strongly of butyric acid. The bowels were very costive. Physical examination of the abdomen revealed marked tenderness in the epigastrium, a dilated stomach extending well below the umbilicus, and an *irregular* flattish mass in the upper right quadrant of the abdomen. The urine was scanty and alkaline (fixed alkali). With routine treatment the patient improved to such an extent that from Dec. 14th to Jan. 3rd there was no vomiting and, in fact, the patient considered herself well. However, Dr. Abram considered that an operation was advisable and the patient was transferred to the care of Mr. Thelwall Thomas in January, 1901. On opening the abdomen a mass of adhesions was found in the pyloric region which were covering a duodenal ulcer lying just beyond the pyloric ring and so situated anatomically that excision was impracticable. The surface of the ulcer was scraped and pyloroplasty was performed. She made an uninterrupted recovery and had remained free from any gastric symptoms up to the time she was last seen (July, 1902) and there is now no trace of dilatation of the stomach.

CASE 2.—The patient was a nurse, aged 26 years. The first gastric symptom, vomiting, occurred in February, 1899, and was definitely associated with mental shock. Food caused discomfort but not actual pain. After a month's rest no symptoms appeared for seven months. From this time (October, 1899) constipation was marked and slight pain after food was frequent. In March, 1900, Dr. Abram saw her for a severe attack of pain in the epigastrium with a slight degree of collapse. Mr. Thelwall Thomas saw the case with him, and it was decided that perforation in the general cavity of the peritoneum had not occurred and that immediate operation was not indicated. On May 8th she left the infirmary practically free from all symptoms and during a three months' holiday could golf and cycle. After returning to duty she had occasional attacks of colicky pain. In November, 1901, she had a septic throat and, as the temperature fell, a severe attack of abdominal pain came on. Dr. Abram was now able to detect a lump in the epigastrium lying to the left of the middle line. Although by careful dieting and attention to the bowels this patient could be kept free from pain, yet she was always in danger of a relapse, and, moreover, was off duty nine months in three years—a serious matter to a nurse. Dr. Caton also saw the patient and agreed as to operation. Mr. Thelwall Thomas operated in December, 1901. There was a dense mass of adhesions, covering an ulcer of the stomach. The ulcer lay on the lesser curvature, rather nearer the cardiac than the pyloric end of the stomach. The ulcer and adhesions were excised. The patient made a good recovery from the operation and has remained well up to the time of writing (August, 1902).

Remarks by Dr. ABRAM.—I wish to record these two cases because I believe physicians will have to consider the question of surgical interference in cases of chronic gastric ulcer, or, as they might well be called, "relapsing" gastric ulcer. I should like to emphasise the fact that in both these cases relief was obtained by ordinary treatment, and yet in Case 1 life was becoming a burden and in Case 2 the repeated relapses were seriously interfering with the patient's training as a nurse. In Case 2 the adhesions were extremely dense, and, in fact, Mr. Thomas thought that he had a tumour to deal with. Subsequent microscopical examination by Dr. E. E. Glynn showed, however, simply scar tissue. Although not tumour, the adhesions were so tough that their removal was most difficult, and it would have been in my opinion absolutely hopeless to interfere successfully for an acute perforation. It seems to me, therefore, that surgical intervention should be invoked during a quiescent period. Finally, the term which I have suggested for these cases—viz., "relapsing"—needs a word or two of comment. The cicatrisation of a true gastric ulcer is a much rarer thing, in my opinion, than is commonly believed. I have no note of such a condition post mortem, and the pathologist to the infirmary, Dr. Glynn, has only found one in a hundred cases in which the stomachs were specially treated, and any cicatrix could have been readily detected. Many writers on gastric ulcer hold that the cicatrices are overlooked, hence Dr. Glynn's experience is important. From the history of the above two cases it is obvious that the symptoms may all disappear and yet the ulcer has not cicatrised, it has merely become callous. The cause of relapse is obscure: errors of diet, and so on, account for some cases, but Case 2 is of interest, for in this instance a severe relapse attended, or rather followed, a septic throat, and it may well be that infection has much to do with relapses. This, again, emphasises the necessity for most rigorous attention to the state of the mouth in all cases of gastric ulcer.

[1] Quoted by Robson and Moynihan, Diseases of the Stomach and their Surgical Treatment, p. 100.

VACCINATION GRANT.—Mr. J. Chestnutt, B.A., public vaccinator for Howden, East Yorkshire, has for the second time been awarded the special grant for the efficient state of vaccination in his district.

Reviews and Notices of Books.

Dangerous Trades: the Historical, Social, and Legal Aspects of Industrial Occupations as Affecting Health. By a number of Experts. Edited by THOMAS OLIVER, M.A. Durh., M.D. Glasg., F.R.C.P. Lond., Medical Expert on the White Lead, Dangerous Trades, Pottery, and Lucifer Match Committees of the Home Office; Professor of Physiology, University of Durham; Physician to the Royal Infirmary, Newcastle-upon-Tyne. London: John Murray. 1902. Pp. 891. Price 25s. net.

IT is now 20 years since the late Dr. Arlidge published his book on "Hygiene and the Diseases of Occupation." The work done by Dr. Arlidge has not been hitherto, and is not yet, sufficiently appreciated, but the seed which he sowed is bearing fruit and the future historian of dangerous trades will not fail to give due credit to a man who worked alone and unrewarded. The writings of Dr. Arlidge, it is true, lacked the literary skill which has made those of Sir John Simon so popular, but his book will outlive many more pretentious works. A very large amount of information concerning dangerous trades has been accumulated during the last few years, and most of it has been published in the annual reports of the Chief Inspector of Factories and Workshops which are issued by the Home Office. A book containing all the latest available information on dangerous trades and the diseases induced by them has long been wanted. The work edited by Dr. Oliver has been designed to meet this want. "This," Dr. Oliver tells us in the opening passage of his preface, "is the first occasion on which, on the special lines indicated in this book, any adequate attempt has been made in this or any other country to deal with the conduct of trades and other occupations in respect to the dangers to life and health to which the workers are liable." The field covered by "dangerous trades and occupations" is, as the editor goes on to say, a very wide one, and he used a wise discretion when, feeling that there is "no one person competent to deal adequately with the whole," he decided to engage the coöperation of a number of writers to contribute articles on the various subjects with which the volume deals. The book is written not only for medical men but for the educated public, and it is hoped also that it will be of assistance to members of both Houses of Parliament. From what has been said it will be seen that the task which Dr. Oliver set himself was by no means light and was beset with difficulties from the beginning. Two of these are at once apparent. In the first place, which are the industrial occupations? Dr. Oliver includes the army and "the marine services." A second difficulty was, how is it possible to write on diseases in such a way as to be instructive to the general public and at the same time to be of use to medical men? The task appears to be almost an impossible one.

The introductory chapter is written by Dr. Oliver. It appeals rather to the "educated public" and to Members of Parliament than to medical men. The next two chapters comprise an historical sketch of the Development of Legislation for Injurious and Dangerous Industries in England, and the Regulation of Injurious or Dangerous Occupations in Factories and Workshops in some of the Chief European Countries. The history of factory legislation is poor in facts and is not up-to-date, having been written before the passing of the Factory Act of last year.

Dr. John Tatham of the Registrar-General's office contributes a chapter on the Mortality of Occupations and one on Dust-producing Occupations. These are both admirable. The facts given may be relied upon as being accurate. The statements are made clearly and concisely. No extraneous matter is introduced. The chapter on the Safeguarding of Machinery is written by Mr. H. S. Richmond, H.M. Superintending Inspector of Factories. The subject is treated by one who is thoroughly familiar with the subject on which he writes and who can clearly express what he has to say. Mr. Richmond has embodied the provisions of the Factory Act (1891) in so far as they bear on the subject on which he treats and his work is done in that thorough and scholarly way which is possible only to one who has an accurate knowledge of his subject and the power of literary expression.

A chapter on Lead and its Compounds is written by Dr. Oliver who has of late been much engaged in the subject on behalf of the Home Office. His work is familiar to readers of THE LANCET and it need only be said that this chapter is not unworthy of his reputation. Dr. Oliver contributes also articles on China and Earthenware Manufacture; Phosphorus and Lucifer Matches; Indiarubber, and the dangers incidental to the use of Bisulphide of Carbon and Naphtha; Dry Cleaning by means of Benzine; on the Use of Inflammable or Spirit Paints; on Flour Mills; on Diseases due to Working in Compressed and Stagnant Air; on Diseases due to Diminished Atmospheric Pressure; on the Effects of Concussion of the Air; on the Iron and Steel Industries; on Diseases due to Excessively Repeated Muscular Actions; and on Miscellaneous Trades, amongst the workers in which are included tobacco manufacturers and cooks, coal-heavers and housemaids, workers in sequoia wood and chimney-sweeps. Finally, the editor has written on "Dust Women" and Dust as a Cause of Occupation Disease. Like dust itself, the information contained in this book on the subject of dust is very irregularly distributed. Of Dr. Tatham's article on dust-producing occupations mention has already been made. The dust women of whom Dr. Oliver writes are, of course, those unfortunate people who sort rubbish for the metropolitan boroughs and for contractors. The chapter on dust as a cause of occupation disease is illustrated by a number of micro-photographs, most of which are of little practical use. Ganister crushing (of which a good account was given in the Factory Reports for 1900), mill-stone building, and steel-grinding are dusty occupations which are separately described. Dr. Morison Legge contributes an instructive chapter on the Dangers in the Use of Mercury and its Salts and one on the Lesions resulting from the Manufacture and Uses of Potassium and Sodium Bichromate.

As editor of the book Dr. Oliver must be held responsible for the selection of the writers, for the allocation of the subject on which each contributor was to write, and for the general arrangement of the book. It is not easy to account for the selection of some of the contributors. There is an unnecessary overlapping in some of the articles and the general arrangement of the contents of the book cannot be explained except on the supposition that it is the result of chance. In the next edition of this book, which is certain to be wanted and of which the publication should not be delayed (for the present volume is already in parts out of date), the editor will do well to arrange the contents on some definite principle. The book, however, possesses a full table of contents and a moderately good index, so that any reader can usually refer to any point on which he requires information.

We welcome the present volume as the standard book on dangerous trades. The parts to which we have called attention are amongst the best in the book and it would not be right to disguise the fact that there are some chapters in the present edition which should be eliminated, some which should be entirely rewritten, and very many which require editorial supervision.

A Practical Manual of Insanity. By DANIEL R. BROWER, M.D., Professor of Nervous and Mental Diseases in Rush Medical College; and HENRY M. BANNISTER, M.D., formerly Senior Assistant Physician to the Illinois Eastern Hospital for the Insane. Philadelphia and London: W. B. Saunders and Co. 1902. Pp. 426. Price 13s. net.

THE past three or four years have been marked by the making of many text-books in insanity, a thing due partly at least to the fact that a knowledge of mental disease is become increasingly important, if not compulsory, in the higher medical examinations. The aim of the present work is to present to the student and to the general practitioner "the essential aspects of mental disease," and to give an "intelligible and up-to-date statement of facts." With these objects, after a preliminary sketch of the causes of insanity, a few pages are devoted to the commoner symptoms of mental diseases such as alteration of spirits, hallucinations and delusions, and aberrations of the will. Then follow brief accounts of the examination and general treatment of patients. The preceding portion occupies 130 pages. The next chapter deals with the Classification of Mental Disease, and while it summarises several schemes of classification propounded by many authorities the subject is not handled with particular discrimination. The next 250 pages are devoted to systematic descriptions of the various types of insanity under the following headings: Primary and Secondary Confusional Insanity; Melancholia; the Toxic Insanities due to Alcohol, Morphia, Cocaine, and other Drugs; General Paralysis of the Insane; Organic Dementia; Epileptic, Hysterical, and Hypochondriacal Insanity; Adolescent and Senile Insanity; Recurrent Degenerative Mania; Circular Insanity; Paranoia; Moral Insanity, Imbecility, and Borderland States between Sanity and Insanity. The descriptions given of the various insanities are concise and clear but by no means sufficient for diagnostic purposes, and the frequent absence of clinical cases or details of clinical and pathological interest detracts somewhat from the practical value of the book. This will doubtless be remedied in future editions, but in its present form the book can have but a limited scope of usefulness to students or practitioners.

Geburtshilfliche Operationslehre für Studierende und Aerzte. (Text-book of Obstetrical Operations for Students and Practitioners.) By Dr. FELIX SKUTSCH, A.O. Professor an der Universität, Jena. With 145 illustrations in the text. Jena: Gustav Fischer. 1901. 8vo, pp. 348. Price 8 marks.

THIS book is not intended to be a text-book of midwifery. It is concerned with the indications for, and the best methods of carrying out, the various obstetrical operations. Primarily a manual for students it should prove of service to the general practitioner. After an introductory chapter upon the Prevention of Puerperal Fever the application of forceps in all the presentations suitable for the use of that instrument is discussed. Professor Skutsch does not appear to have a very well-defined view of English practice at the present day, since he says in describing the use of forceps, that while in France and Germany the forceps are often applied to the head while lying high up in the pelvis, in England they are mainly used when the head is low down in the pelvic cavity—a statement which certainly does not represent the usual practice in this country. He does not appear to approve of axis-traction forceps and the section devoted to these is somewhat scanty and poor. No mention at all is made of the modern and improved forms and the many advantages of the instrument do not appear to be appreciated by the author. There are, of course, many practical points in which the advice differs from that usually given by English obstetricians and this adds to the interest of the book. For instance, the author recommends that when the forceps are applied to the head while situated low down in the pelvis they should be passed by the right hand applied to the shanks, one or two fingers being placed between the two blades. In this way he thinks there will be less likelihood of injuriously compressing the child's head. In the application of high forceps, while the left hand is used to make traction on the axis of the handles of the forceps, the right is used to make pressure downwards at right angles to the long axis of the instrument, the patient lying in the dorsal position. By this method, known as Osiander's, axis traction is carried out. In many instances the practice of producing rotation of the head by the forceps is recommended, a plan not much in vogue in this country. In cases of premature rupture of the membranes and incomplete dilatation of the cervical canal the introduction of a hydrostatic dilator into the vagina is suggested. This is to prevent the escape of the liquor amnii, to promote dilatation of the cervix, and to set up uterine contraction. We imagine that most English obstetricians would place the bag in the cervical canal and not in the vagina. To render the rotation of the body more certain in dorso-posterior transverse presentation Professor Skutsch brings down both legs. By this method he thinks the rotation of the back of the child to the front is more certainly obtained and the arms are less liable to become extended. In transverse positions of the child with presentation of the back Deutsch's method of rotating the whole body of the child upon a transverse axis is described and figured. No mention is made of the vertical elongation of the head which occurs in cephalotripsy. The author does not consider that symphysiotomy is an operation suitable for private practice, and throughout the book he is cautious about recommending to the private practitioner operations which are really only possible in well-appointed hospitals with skilled assistance. The book is well illustrated and is of interest as an example of the practice in Germany with regard to obstetrical operations.

LIBRARY TABLE.

The Buried Temple. by MAURICE MAETERLINCK. Translated by ALFRED SUTRO. London: George Allen. 1902. Pp. 276, crown octavo. Price 5s.—In this book the author invests with all the charm of his own admirable style the various vague ideas which occur to a brooding mind upon some of the great mysteries of life. The task which he has set himself is eminently a task of criticism. He falls foul of the churches, the poets, and the philosophers of his time. But the critical faculty is precisely that in which he is wanting. In suggestive glimpses of great truths and in convincing statement of what many of us dimly feel to be true Maurice Maeterlinck stands among the great minds not only of his nation but his time; but surefooted criticism is by no means in his way. Much of what he says leaves the reader with the impression that he might equally well have said the reverse, and all has to be taken upon the authority of his somewhat oracular utterance. How far the author is from that intellectual serenity which is indispensable to the highest work of criticism may be seen at once from his petulant remarks about the Boer war. It is not, however, by such imperfect features of his work that Maeterlinck must be tried, and when he speaks of matters which are truly within his compass he says what is more than notable. For instance, the following dictum concerning the use of symbolism in poetry is a sample of much that could be found in these fascinating pages. "It is time that the poet should realise that the symbol is legitimate only when it stands for accepted truth, or for truth which as yet we cannot, or will not, accept; but

the symbol is out of place at a time when it is truth itself that we seek. And, besides, to merit admission into a really living poem, the symbol should be at least as great and beautiful as the truth for which it stands, and should, moreover, precede this truth and not follow a long way behind." It remains only to add that the translation has been excellently well done, though for some curious reason here and there the translator uses the auxiliary "will" as a Frenchman or a Scotsman might, meaning thereby "shall."

Letters to Young Wives and Mothers, Nos. 1, 2, and 3. By FREDA LORAINE. London: The Cable Printing and Publishing Co., Limited. Price 6*d.* each.—These three little pamphlets contain some admirable advice to expectant mothers. Lady Loraine's remarks are shortly summarised by the quotation given at the head of letter 1. "Whatsoever things are pure, whatsoever things are lovely, whatsoever things are of good report ..... Think on these things." There is but little doubt, we think, that a mother's temperament, "conversation," and surroundings during her pregnancy have an influence for good or for evil upon her as yet unborn child. If a woman is during her pregnancy contented, in easy circumstances, and surrounded by beautiful objects her child is much more likely to be healthy, good-tempered, and patient of control than if in its prenatal days its mother has been worried, anxious, and bad-tempered. Although happiness and contentment are not within the reach of everyone Lady Loraine has done well in pointing out to those chiefly concerned that a mother can exercise an influence over her unborn child, and even the trying to be contented will often result in attainment.

JOURNALS.

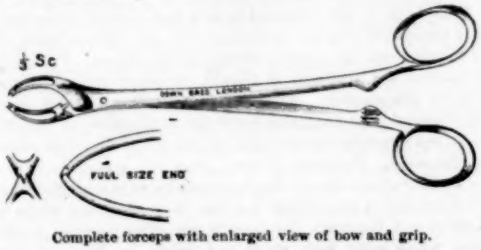
Medical Magazine.—The interest of the July number of the *Medical Magazine* centres in an announcement contained therein which is headed "The *Medical Magazine* and Medical Protection." The magazine is to be supplied to all present and future members of the London and Counties Medical Protection Society and an attempt is to be made by special issues from time to time to "keep the medical profession constantly and systematically in touch with those questions which most vitally affect its own interests and thus to enlist its sympathy and coöperation." We are always in sympathy with efforts aimed at stimulating the interest of medical men in the practical politics of their own profession and shall be glad if the *Medical Magazine* succeeds in this direction.

Journal of Anatomy and Physiology. Conducted by Sir WILLIAM TURNER, K.C.B., F.R.S.; D. J. CUNNINGHAM, M.D., F.R.S.; G. S. HUNTINGTON, M.D.; A. MACALISTER, M.D., F.R.S.; and J. G. M'KENDRICK, M.D., F.R.S. Vol. XXXVI. New Series, Vol. XVI. Part 4. July, 1902. With Plates and Figures in the Text. London: Charles Griffin and Co., Limited. 8vo. Pp. 112. Price 6*s.* Index Number.—The following articles are contained in this number of the journal. 1. On the Succession and Homologies of the Molar and Pre-molar Teeth in the Mammalia, by H. W. Marett Tims, M.D. Edin. 2. The Normal Position of the Big Toe, by Joseph Griffiths, M.D. Edin., F.R.C.S. Eng. Dr. Griffiths gives drawings and measurements which show that in the newly-born child, in the adult, in the savage, as well as in civilised man, both of the present day and as represented to us in Greek sculpture, the big toe is asymmetrical, gently curved in its long axis with the convexity inwards towards the opposite foot, and is directed outwards more or less from the inner line of the foot as well as from the line of the innermost metatarsal bone. 3. On two cases of Dental Anomaly, by O. Charnock Bradley, M.B. Edin. One of these cases occurred in the horse and in this there was a supernumerary molar in the maxilla, whilst in the other the premaxillary region of a calf presented two teeth. The former case Dr. Bradley regards as an instance of multiplication of serial organs in the individual, whilst the latter he considers to be an instance of reversion towards an ancestor provided with a fuller complement of teeth than exists in the modern bovidæ. 4. A note on the Occipito-atloid Articulation in some Arctoids, by R. J. Anderson, M.D. R.U.I. 5. Two Rare Vertebral Anomalies, by E. Barclay-Smith, M.D. Camb. 6. On the Natural Preservation of the Brain in the Ancient Egyptians, by G. Elliott Smith, Fellow of St. John's College, Cambridge; Professor of Anatomy, Egyptian Government School of Medicine, Cairo, with a plate. 7. The Primary Subdivision of the Mammalian Cerebellum, by G. Elliott Smith. 8. On the Presence of an Additional Incisor Tooth in a Prehistoric Egyptian, by G. Elliott Smith. 9. Note on a Case of Muscular Abnormality observed during Life, by Professor T. Wardrop Griffith, M.D. Aberd. The case appears to be one of complete absence of the sterna and of a small part of the clavicular origin of the pectoralis major of the right side in a man. 10. On the Arrangement of the Branches of the Mammalian Aortic Arch, by F. G. Parsons, F.R.C.S. Eng. Drawings of the normal arrangement of the vessels in many animals are given. 11. The Relative Weights of the Right and Left Sides of the Body in the Fœtus, by T. G. Moorhead, M.B. Dub. 12. The Comparative Histology of the Urethra, by J. Strickland-Goodall, M.B. Lond. 13. A Supra-Clavicularis Proprius (Gruber), by P. P. Laidlaw, St. John's College, Cambridge. 14. Emargination of the Patella, by the Rev. F. C. Kempson, M.B. Camb. In addition to an index to the thirty-sixth volume the part contains the Proceedings of the Anatomical Society of Great Britain and Ireland.

New Inventions.

LONG ARTERY FORCEPS FOR DEEP WOUNDS.

IT is sometimes rather difficult to place a ligature on a bleeding point in a very deep wound, as, for instance on the pelvic floor in an abdominal section when the abdominal incision is small and the walls are thick, or in a vaginal section when the vessel is almost out of reach. Ordinary artery forceps are too short and in using most long forceps one is apt to include the ends of the blades in tying the ligatures. Messrs. Down Bros. have made to my design a pair of forceps which are figured here and which seem to render considerable help in the conditions indicated. The shaft is nine inches long. The instrument bears a superficial resemblance to a large pair of Morrant Baker's artery forceps, but it differs from them in the construction of the blades. These are not serrated but terminate in fine toothed ends. The blades are broadly bowed with somewhat obtuse points. They take up but a small piece of tissue, and a loop of ligature thrown over the shoulder and drawn tight runs well over the ends, and it is almost impossible to tie the extremity of the forceps in the tissue seized. The instrument has the shafts, handles, and catch of Morrant Baker's forceps and the blades and toothed ends of ordinary artery forceps, except that its bow is shorter and wider. It has an aseptic joint and weighs two ounces.



Complete forceps with enlarged view of bow and grip.

Leeds. J. B. HELLIER, M.D. Lond.

THE LANCET.

LONDON: SATURDAY, AUGUST 16, 1902.

The Metropolitan Hospital Sunday Fund for 1902.

IF the congregations which assembled in the various places of worship in the metropolis on Hospital Sunday were not equal to the task of raising the Hospital Sunday Fund for 1902 to £80,000 so as to insure, with the aid of the munificence of Mr. GEORGE HERRING, a grand total of £100,000, we may at any rate congratulate them upon a "record" collection wherewith to celebrate the coronation of King EDWARD VII., the end of the war in South Africa, and the thirtieth year of the Fund.

In 1873 the Metropolitan Hospital Sunday Fund was inaugurated and in that year it reached £27,700, of which £1844 ranked as donations as distinct from collections obtained in places of worship. This year, as we announced last week in THE LANCET, the contributions from places of worship *alone* amounted to £45,000—a sum exceeding nearly all the grand totals of previous years, *including* donations. In fact, only three times have the grand totals of the Fund exceeded the amount collected this year in the places of worship. The grand total also when completed will probably this year exceed that of 1895, when it amounted to £60,361, the highest figure as yet registered. Such a result is satisfactory, for while we urged all to contribute upon an unexampled scale, and so to commemorate the great events of a memorable year, and although there was much in the declaration of peace and in the approaching coronation of our beloved KING and QUEEN to excite kindly feelings and to stimulate generosity, we did not, and do not, forget that there were circumstances also to be considered which were likely to diminish rather than to increase the offerings of the majority. The year 1895, to which we have referred, was distinguished by a boom in South African mining shares which had a corresponding effect in other markets. The late Mr. BARNEY BARNATO and his friends contributed £10,000 and the Stock Exchange at large joined the list of donors with £3400, while no doubt other minor givers felt similar impulses towards generosity accompanied by special means to gratify them. This year all the circumstances are entirely different. The country is feeling the effects of a long and costly war, the price of most securities is down, and the coronation has caused expenses which many have had to take into consideration, and which the untoward illness of the KING has materially increased for many of his subjects. When these things are taken into consideration it will be seen that the Hospital Sunday Fund is to be cordially congratulated upon its thirtieth anniversary, while we may express the hope that years of increased prosperity may be coming and that the forward step now taken may never be retraced.

To THE LANCET the success of the Hospital Sunday Fund is a source of keen gratification. At the time of this year's collection the *Pall Mall Gazette* published an interesting interview with Sir HENRY BURDETT, than whom no one is better qualified to speak on every point connected with the financial organisation of our hospitals, while all know how much the Hospital Sunday Fund owes to his resource and energy. In speaking to his interviewer of the origin of the Hospital Sunday movement Sir HENRY BURDETT described how Sir SYDNEY WATERLOW, then Lord Mayor, wrote to the Mayor of Birmingham for particulars of the working of the Hospital Sunday movement in his municipality, but, he added, "the idea had been debated in London before that. Dr. WAKLEY, a former Editor of THE LANCET, for instance, had repeatedly urged upon successive Lord Mayors the necessity of some such scheme. Dr. WAKLEY, indeed, is entitled to claim the paternity of the movement in London." We are particularly gratified at this public acknowledgment of the assistance given to the Fund at its commencement by the late Dr. JAMES WAKLEY, and trust that it does not savour of family pride if we also allude to the fact that he set the example to private donors of large sums by giving £1000 in 1885 and the same sum in 1886, while his executors in 1887 paid a like amount under his will. These sums in the years named stood alone and the importance of their effect may be judged by examination of the donations of subsequent years, among which the gifts of 1895, to which we have already alluded, the regular and noble contributions of Sir SAVILE CROSSLEY and the princely generosity of Mr. GEORGE HERRING in recent years may be specially referred to.

At the meeting of the council of the Fund on August 5th graceful reference was specially made to the efforts of THE LANCET by Mr. ALFRED WILLETT in proposing a resolution of thanks to "the editors of newspapers who have pleaded the needs of hospitals and advocated the cause" of the Metropolitan Hospital Sunday Fund. We appreciate highly such recognition as this of the work that we have endeavoured to do in a good cause, and we shall continue to hope that the annual supplement which we devote to the Fund has some influence in unloosing the purse-strings of those who peruse it in their places of worship on Hospital Sunday and elsewhere. In the form which it took this year it made the patients in the hospitals themselves the advocates of the hospitals' cause, and if any of those whose experience in the wards was published by us follow the fortunes of the Fund in the newspapers we hope that it will give them pleasure to see that a record collection has followed the issue of their stories. Those members of the staffs of the hospitals who coöperated in enabling us to prepare the supplement will also, we believe, enjoy a similar feeling of satisfaction. In fact, the steady progress of the Fund is well calculated to be a source of gratification to all those who are labouring to maintain its advance. Directly and indirectly the Fund has had a considerable influence on the institutions on whose behalf it was founded, and that influence has been wholly for good. We may repeat in conclusion the sincere hope that the splendid collection

of 1902 may form part of a continued and well-sustained progressive movement and that a substantial increase from year to year may be looked for in the future.

The Simulation of Abdominal Disease by Intra-thoracic Lesions.

IN the present state of medical science it may safely be said that in many morbid conditions the art of diagnosis has far outstripped treatment, and we may, indeed, legitimately pride ourselves on the strides which have been made in introducing and perfecting our methods of diagnosis and in enlisting the assistance of various diagnostic aids. There is, however, no small danger that we may over-estimate the exactness with which we can recognise a disease and this danger is especially acute in those cases in which diagnosis is rapidly followed by energetic surgical treatment, for it may easily happen that from a slight misreading of the signs that are present the aid of the surgeon is invoked and an operation is performed which was quite unnecessary and therefore, to some extent at least, harmful. There is a well-known passage in one of GALEN'S works in which he describes how he detected an error of diagnosis on the part of a Sicilian physician at Rome. The Sicilian physician was himself the patient and suffered from a sharp shooting pain in his right hypochondrium. A short dry cough also troubled him and his breathing was frequent and shallow and he therefore had diagnosed pleurisy. GALEN by the acuteness of his observation was able to show that the real condition from which the patient was suffering was an acute hepatitis. We see, then, that it is not difficult to mistake a morbid condition of an abdominal viscus for a disease of the thorax. At the present time, however, the reverse mistake in diagnosis is much more likely to be made and an intra-thoracic affection mistaken for some abdominal disease. In hospital practice this is specially prone to occur. A patient with marked abdominal symptoms is far more likely to be admitted under the care of a surgeon than to be sent into a medical ward. Even in private practice, too, sudden and severe abdominal pain is so suggestive of perforation of a gastric ulcer or of an inflamed appendix that a surgeon is much more likely to be called in than a physician.

This is especially the era of exploratory laparotomy. We say this with no invidious meaning. When marked abdominal symptoms are present, such as pain, distension, tenderness, and vomiting, the surgeon may hesitate to make an exact diagnosis and yet he may reasonably feel justified in saying that some serious abdominal condition is present and that an exploratory laparotomy is advisable not only to establish a diagnosis but to carry out the treatment. For in such cases diagnosis and treatment go hand-in-hand. Experience justifies the confidence that the surgeon feels, for in 99 cases out of 100 these symptoms are to be attributed correctly to abdominal lesion and the laparotomy in revealing the diagnosis shows also how best to treat the condition. But there are exceptions. Occasionally, very occasionally indeed, a case is seen in which a superficial or even a fairly thorough examination will suggest that there is some gross abdominal lesion present and yet the cause is seated within the thorax. This very important subject has been brought forward by Mr. H. L. BARNARD who has contributed a paper published in THE LANCET of August 2nd, p. 280. He has collected six cases in which a morbid condition of the pleura or the lung has led to symptoms suggesting a general peritonitis. Another case of the same kind appears in the Mirror of Hospital Practice in the present number of THE LANCET (p. 440). The intra-thoracic conditions which have caused these severe abdominal signs are all to be found in the lowest part of the chest, either affecting the pleura where it covers the diaphragm or the inner surface of the chest wall, or the base of the lung itself. In all the cases quoted in the paper that we have mentioned the pleura was affected, but in half of the cases there was also a basal pneumonia. The symptoms and signs which suggested the abdominal source of the trouble were numerous and Mr. BARNARD divides them into parietal and visceral. The wall of the abdomen is exceedingly tender, in some cases universally so, but in others the tenderness is limited sometimes to one area, sometimes to another. The spasm of the abdominal muscles is well marked and confirms the diagnosis of an abdominal lesion, and this spasm may be so severe as to cause the greatest difficulty in returning into the abdomen any bowel which may have escaped during a laparotomy. The breathing is shallow and chiefly thoracic, but there are two points of diagnostic importance in connexion with the respiration. In the first place, at each inspiration there is a momentary relaxation of the spasm of the abdominal muscles. This is not the case when the spasm is due to general peritonitis. The other valuable diagnostic sign is the greatly increased frequency of the respiration. The signs and symptoms which are visceral in nature are numerous. Nausea, hiccough, and vomiting may be very severe and the intestines are much distended. Constipation, too, is nearly always present. There is also often great collapse. With such symptoms is it to be wondered at that an error of diagnosis is made and that these signs are attributed to perforation of some abdominal viscus? Especially excusable would such an error be if some previous symptoms should point in the same direction. For instance, in one of Mr. BARNARD'S cases there was a history of gastric ulcer, and the patient, a girl aged 17 years, was suddenly seized with violent epigastric pain and vomiting. The abdomen was tender, rigid, and distended, especially at the epigastrium. A diagnosis of perforating gastric ulcer was obvious and yet this patient was suffering from a double basal pneumonia with diaphragmatic pleurisy on the right side.

The chief danger in the diagnosis consists in preconceived ideas. A surgeon rarely sees cases of pleurisy, he frequently sees cases of peritonitis; and if he, therefore, should be called to a case with the severe abdominal symptoms already mentioned a diagnosis of peritonitis will very likely be made; but he should be on his guard, and a little further examination, a little consideration of the symptoms will make it clear that he is dealing with a case in which thoracic is simulating abdominal disease. The

extreme rapidity of the respiration without any corresponding increase of the pulse-rate points conclusively to pulmonary or pleuritic disease. Further the abdominal tenderness is merely superficial and disappears when firm pressure is exerted and the presence of intra-thoracic signs will confirm the suspicion engendered by the examination of the abdomen. Should unfortunately the true nature of the case not be recognised and a laparotomy be performed it may be that little direct harm will be done, but in addition to the difficulty of closing the abdominal wound due to the rigidity of the muscles, the risk of septic peritonitis is not absolutely negligible and the depression from the operation, slight though that depression may be, cannot but impair the patient's chance of recovery from severe pneumonia or pleurisy. There is, moreover, a further danger: the anæsthetic may serve to make worse any pulmonary disease present, and this is a risk which must not be forgotten. The explanation of these abdominal symptoms is to be sought chiefly in the nervous supply of the skin and the viscera of the abdomen. The terminations of the lower dorsal nerves supply the upper abdominal wall, and the pain caused by lesions in structures supplied by one branch is referred to the distribution of another. Mr. BARNARD'S paper is well worthy of careful perusal and its importance is great, for on a correct diagnosis much depends.

The Notification of Tuberculosis.

THE powerful plea on behalf of the adoption of compulsory notification in cases of phthisis advanced in these columns by Dr. BYROM BRAMWELL in a recent series of lectures deserves the earnest consideration of the medical profession. He is not alone in his advocacy of a measure which *primâ facie* would seem to be the logical outcome of the recognition of the infectivity of tuberculosis. In the course of a most interesting debate, which took place in the section of State Medicine during the recent meeting of the British Medical Association, and which is reported this week in our columns, some of the best known and most experienced of our medical sanitarians took the view that some form of notification is highly valuable to the community in dealing with tuberculosis. Hitherto, it must be confessed, the suggestion has not commended itself to the majority of the profession or to those responsible for the administration of the laws relating to public health. We have more than once expressed an adverse opinion, holding that even if desirable it is hardly practicable. It seems like one of those "counsels of perfection" which cannot be seriously entertained in the present state of society. Dr. BRAMWELL and those who think with him entertain the belief that unless compulsory notification be enforced it will not be possible materially to reduce the prevalence of tuberculous diseases; but compulsory notification is only of value when supported by other measures, the fulfilment of which in the case of so widespread a disease as tuberculosis could only be obtained at enormous cost and after disturbance of social and family relations, with the infliction of hardships upon individuals which the inexhaustible fount of charity might be unable to remove. Dr. BRAMWELL has boldly faced these difficulties and balancing the advantages of the plan against its disadvantages is convinced that it is not only feasible but essential to the subjugation of the disease. He does well to point out that the method of dealing with tuberculosis differs from the procedure adopted in the case of acute infectious diseases, although the aim in view is the same—namely, to limit the spread of infection. Moreover, in tuberculosis the question is a comparatively simple one in so far as the measures of protection are concerned; for the infective agency is known, its mode of transmission from sick to healthy fairly obvious. It is not here that difficulties arise, but in the fact that the disease is endemic and fostered by the conditions of life inseparable from large communities. For this reason the task of combating it on the lines pursued by sanitary authorities in the acute infectious disorders is rendered far more complex and the difficulties of dealing with it becomes well-nigh insuperable. To carry out thoroughly the measures necessary to banish tuberculosis means the provision of machinery so extensive as to stagger the imagination. One involuntarily pictures the land covered with sanatoriums and hospitals which, like the lazar-houses that played so large a part in the subjugation of leprosy, would in time to come be no longer required, having done the work for which they were intended. Well may we ask if there is no other way to deal with this scourge and pause before setting on foot a scheme which would have such gigantic issues.

On the other hand, it is idle not to recognise the importance of a knowledge of the prevalence of tuberculosis which a system of registration would supply, and the use to which such knowledge may be put in enforcing the laws of health, neglect of which has so much to do with this prevalence. And the modified plan of notification suggested by Dr. BRAMWELL on the basis of that adopted in New York for this disease, and in Edinburgh for infectious diseases generally, would certainly materially aid the struggle against the disease. For on this plan the medical practitioner himself would take on much of the duty falling to the sanitary authority whose aid he would summon if he deemed fit. He would see that proper means of disinfection were carried out, that the people were instructed in the very simple methods involved in the destruction of sputum, and that overcrowding was diminished and the dwelling purified by light and ventilation. The public must be instructed how easily the risks of contamination can be avoided and how low is the infectivity of tubercle in healthy environments. Much, very much, can be done in this educational manner, and it is to the medical man that the public will look for instruction. But it would surely be disastrous if the idea became prevalent that the phthisical patient was one to be avoided and to be removed without delay, as if the disease were as dangerous to others as, say, small-pox. The fear of infection, which has gained perhaps too great a hold of the public mind, has doubtless its good purpose, albeit it is making modern man a selfish and pusillanimous creature; but in such a disease as tuberculosis there is no room for such a feeling to enter, in view of the fact that the infectivity is comparatively slight and the means of protecting against it so simple and easy. At the same time, it is for our profession never to cease impressing on the public that tuberculosis is curable and that the surest means of cure lie to hand in the putting in practice by the individual

of the principles which underlie all sanatorial treatment. By all means let these institutions be multiplied, but let us not forget that the rational treatment of the tuberculous subject does not necessarily imply resort to any institution at all.

And this brings us to the great lesson which modern knowledge of the nature of tuberculosis teaches, which cannot be too strenuously urged upon those responsible for the health of large communities. We have suffered generations to grow up under conditions in which tuberculosis is bound to flourish. The measures which the most active sanitary authority can take under the most perfect system of notification are doomed to failure so long as these conditions prevail. Is it not worth while to consider before entering upon a scheme which will involve such heavy burdens whether a wiser course would not be to set steadily to work at the improvement of dwellings and the establishment on the outskirts of all large towns of "garden cities" which should gradually come to replace the courts and alleys which will always remain as hotbeds of disease? If the adoption of compulsory notification and all that is therein implied would tend to check, or perhaps entirely set aside, the more permanent schemes of prevention we should still decline to believe that it was the best means to eradicate tuberculosis. Dr. BRAMWELL speaks of voluntary notification (which is now being adopted in many centres) as a makeshift, but may not the same term apply to the more extended system if it stand in the way of the thorough and only scheme likely to subdue this scourge of civilisation? The debate in the section of State Medicine during the meeting of the British Medical Association, to which we have already referred, terminated in the unanimous adoption of a motion urging the Local Government Board to grant extended powers for dealing with tuberculosis to local authorities. By all means let these powers be granted, for they would be placed in discreet hands. But the public, instructed by the medical profession, must realise that such proceeding would not minimise their own responsibility the matter. A regulation of a Government department cannot convert an unhealthy city into a healthy one, and the prevention of tuberculosis must be largely a question of sanitation in its broadest sense.

Annotations.

"Ne quid nimis."

THE CORONATION.

ON Saturday, August 9th, King Edward VII. and Queen Alexandra were crowned at Westminster Abbey, adding to a long list of memorable coronations one the circumstances of which will never be forgotten by their subjects or by future generations. The postponement of the ceremony and the cause which led to it are matters too recent and too well known for us to dwell upon; it is, however, a matter for profound thankfulness that His Majesty was able to go through such a ceremony without distressing fatigue, and that his exertions should have in no way checked or retarded his progress towards perfect health. The ancient and interesting religious rites and observances had been condensed and curtailed as far as possible with a view to their performance on June 26th, the date originally fixed, so that there was little that could be omitted or abbreviated. The ceremony was by no means a short one, and no better proof of his renewed strength could have been given to His Majesty's subjects, both those who were privileged actually to see him crowned and anointed and those who waited his return from the ceremony wearing the insignia of royalty, than the King's demeanour throughout the day. Not only did His Majesty pass through the midst of his people along an extended route, but he afterwards showed himself upon the balcony of his palace to those assembled to greet him. The weather which prevailed in London on August 9th was unusually cold for the time of year, a fortunate circumstance which must have contributed in no small degree towards enabling the King to endure to the end in comfort and without undue exhaustion. Coronation robes are not garments which even a strong man would lightly undertake to wear and move in during what are known as the dog-days, but the grey still weather of last Saturday, while it diminished to some extent the magnificence of the spectacle in the streets, was ideal from the point of view of all who were not merely onlookers; and if His Majesty is always favoured throughout his reign with days as suitable to the task which he may have in hand he will be fortunate indeed. To the physicians, surgeons, and nurses to whom the charge of His Majesty during the recent weeks of anxiety was entrusted, and particularly to Sir Frederick Treves who performed the operation, we beg to offer our sincere congratulations. With the eyes not of their countrymen only but of the whole world upon them they have successfully done the duty that was allotted to them and the conclusion at which they aimed they have triumphantly arrived at. To the whole world they have given a striking example of the service which medical science places at the disposal of high and low, rich and poor, saving the life of the mechanic in the hospital without hope of reward or restoring to a people the monarch to whose long reign in health, peace, and prosperity we now look forward. To their Majesties we offer our heartfelt congratulations, joining in the chorus of goodwill which has echoed and re-echoed throughout the world. The warmth of the greeting that would be given to them by their people we were safe in predicting last week, and our prognostication was realised in a magnificent outburst of spontaneous enthusiasm. It was, indeed, a fitting reception for the King and his Royal Consort that the streets of London saw last Saturday, a reception that must for ever assure their Majesties of the place which they occupy in the hearts of their loyal subjects.

THE IMPERIAL VACCINATION LEAGUE.

IN our issue of July 5th we referred to the formal constitution of the Imperial Vaccination League and the most important points which the promoters of the league considered should be dealt with. In a letter which was published in the *Times* of August 11th, a letter signed by His Grace the Archbishop of Canterbury, the Bishop of London, and the Duke of Northumberland, Lord Kelvin, Sir William Broadbent, Sir Victor Horsley, Sir W. S. Church, and Dr. J. C. McVail, to quote only a few of the names, the league points out that: "It will consider if the entire supply of glycerinated calf-lymph should not be guaranteed and regulated by some public authority. In Germany for 55,000,000 people there are 22 state laboratories for the preparation of lymph. In Great Britain and Ireland for 40,000,000 people we have but one. Private practitioners have to trust to the vendors of lymph without any guarantee as to its age or quality. If a central authority for vaccination were established under the Local Government Board the provision of an adequate amount of lymph would be an important part of its duties." It cannot be doubted that the fact of the

preparation of vaccine lymph being left to a very large extent in private hands makes for a sad want of uniformity in the quality of lymph supplied. This want of uniformity and the defects inseparable from haphazard methods of preparation were well brought out by the results of our Special Commission on Glycerinated Calf Vaccine Lymphs which appeared in THE LANCET[1] and it is quite possible that much of the prejudice against vaccination is due to the use of either impure lymphs which produce various septic troubles or else to the insufficient protection afforded by an inert lymph. The great experiment of the Vaccination Act of 1898 comes to an end next year, and it would be a useful duty on the part of the League to press the Government to consider the question of revaccination.

THE KING'S SANATORIUM: THE PRIZE COMPETITION FOR THE ERECTION OF A SANATORIUM IN ENGLAND FOR TUBERCULOSIS.

DR. ARTHUR LATHAM'S address on the Modern Treatment of Pulmonary Consumption, which will be found in the columns of our present issue, presents some points of historical interest. It was read before the Hunterian Society of St. George's Hospital on Nov. 24th, 1901. Last week we announced that the King had sanctioned the award of three prizes for essays on the subject of sanatoriums for phthisical patients and that Dr. Latham had gained the first prize of £500. Dr. Latham's prize essay was founded upon the address which we now publish.

A WINTER IN CYPRUS.

A MEDICAL correspondent has written to us warmly eulogising the climatic conditions of Cyprus from personal experience and calling attention to its suitability as a health resort. He says that at the commencement of the British occupation the initial blunder of encamping our small army on the salt marshes near Larnaca gave the island a wholly undeserved reputation as a fever-stricken place. It is true that fever occurs at certain seasons and within certain limited areas, but in winter the coast is free from it. From December to April last winter reminded him of a long English summer; the average temperature at 9 A.M. was 55° F.; on only two or three evenings did he find it necessary to wear an overcoat, and at night his bedroom window was always wide open. The rainfall was practically *nil*. Limasol he considers to be probably the best town for winter residence. It has a small English colony and an excellent club, and polo, cricket, football, hockey, and tennis are played. There is an hotel with good bedrooms, but the sanitary arrangements have not yet been brought up to date. In February and March he made a leisurely tour of the island, starting from Limasol with mules, some of which carried the camp and belongings, the retinue consisting of two muleteers and a cook. He camped the first night at Pissouri; next day he visited the ruins of the temple of Venus and camped that night at Ktima or New Papho. A few nights afterwards he camped at Pyrgo on the sea-shore, the water being in fact only 10 feet from the tents. In due course he arrived at Nicosia, the capital and the seat of government; the climate here was bracing, being colder than on the coast, but in its way it was just as fine. Nicosia is a typical Eastern town, walled, and with fine bazaars. An enjoyable stay of a week was made here. The High Commissioner showed much interest in the question of Cyprus as a health resort. There is an excellent hospital, ably administered by Mr. R. A. Cleveland. Two or three days' journey, camping at night, brought the party to Famagusta, where they camped in a pretty plantation at the gate of a fortress. The magnificent old fortifications give an air of picturesqueness to the place; Othello's tower still stands, and the harbour is being developed. Passing through Larnaca, where there is a model hospital designed and superintended by Dr. G. A. Williamson, an accomplished bacteriologist, they finally returned to Limasol, thereby completing the round of the island. Our correspondent was so pleased with his experiences that he hopes to pay a second visit to Cyprus next winter, taking patients with him. He considers that the climate is suitable for a variety of pulmonary complaints, especially in the incipient stage. The chief drawbacks are the limited extent of the available accommodation and the absence of pasturage, with the consequent want of fresh milk and butter.

[1] THE LANCET, April 28th, 1900 (p. 1227), and June 7th, 1902 (p. 1621).

THE MEDICAL OFFICER OF THE BALLACHULISH SLATE QUARRIES.

MORE than a month has now elapsed since the directors of the Ballachulish slate quarry dismissed Dr. L. Grant from his position as medical officer at the quarry, but they have not yet given him any satisfactory explanation of their reason for doing so. They have, however, presented their own version of the case in a published statement which is to our mind anything rather than a justification of their high-handed action and is, in fact, about as lame and feeble an apology as can be imagined. This document, which seems to have been posted up or displayed at the quarry on August 4th, was addressed to the men, was dated July 26th, and began by professing "to show something of the rights of the case." It then continues as follows:—

> The medical gentleman at Ballachulish has always been a quarry doctor in the first instance, but the country is getting filled, big works are opened up, more people are living around, and of late the quarry doctor, it appears to the directors of the company, has been inclined to take on work which makes it necessary that he should be more and more absent from the neighbourhood of the quarries, and the directors do not like it. When the present gentleman came to Ballachulish he signed an agreement with the directors, which agreement either party might end on giving one month's notice. Most people stick to a bargain, but Dr. Grant, or more likely injudicious friends, have raised a cry of dismissal, cruel ill-treatment, and so forth, and have not put before you the facts of the case fully. Have you been told that Dr. Grant has put it out of his power to practise in the district on the termination of his engagement and that he has barred himself by law from accepting any appointment from you? If you want to know why the directors are not satisfied with the recent agreement I will inform you that it was not sufficiently binding to prevent Dr. Grant from taking work on at a distant granite quarry. ..... In conclusion, I must express my great regret that people connected with the quarries have interfered. .....

The quarrymen's reply to this communication was that their medical committee met on August 4th and confirmed their appointment of Dr. Grant as medical officer for the quarrymen, requesting him to be prepared forthwith to give such medical services as might be required by themselves or their families. The medical committee further expressed the opinion: (1) that the men had already given the directors sufficient notice of their intention to appoint their own medical officer[1]; and (2) that they were better able to judge of the care and attention paid by him to his duties than was possible for the directors who did not reside in the district. On August 7th a mass meeting of the men was held at which a resolution was adopted protesting against the action of the directors in applying to the courts and seeking to interdict Dr. Grant from practising in Ballachulish. Our advice to the quarrymen and to Dr. Grant is to adhere to the position which they have taken up. The essential weakness of the statement published by the directors is the remark that Dr. Grant was "more and more absent from the neighbourhood of the quarries and the directors do not like it." That would be all very well if the workers in the quarries were helpless dependents, like the coolies employed

[1] THE LANCET, August 2nd, 1902, p. 300.

in coffee plantations and tea-gardens, but a Highland quarryman is very unlike an East Indian coolie, and if he strongly approves of the *status in quo* he is not likely to be far wrong. The "distant granite quarry," which is said to take Dr. Grant too far from the slate quarry, is, we understand, about four and a half miles from his house, from which it is reached by a good road. It employs about 60 or 70 men, and, considering the sparseness of the population, it is obvious that the men at the two quarries must be acquaintances. The distance between the places would not be reckoned great in that part of the country, and for the directors seriously to put this forward as their reason for dismissing the medical officer would almost lead us to imagine that they were influenced by some other motive which they were unwilling to disclose.

ILLNESS FROM THE PATIENT'S POINT OF VIEW.

OUR profession is, perhaps, accustomed to look at disease somewhat too exclusively from the point of view of the medical man. We are apt to forget that from the patient's side many symptoms wear a very different aspect. There are many small contrivances which a patient learns only by experience and which yet serve to mitigate greatly the pain and discomfort of the invalid. It would be of interest to gather the experience of medical men on the nursing and general management of illnesses from which they have themselves suffered, for medical men, alas, have no prerogative of immunity from disease. In the present number of THE LANCET (see page 455) we publish some suggestions made by a member of our own profession who has suffered for 24 years, and we cannot but think that they may prove helpful to his fellow-practitioners.

THE PRESIDENTIAL ADDRESS AT THE AMERICAN NEUROLOGICAL ASSOCIATION.

IN his presidential address delivered at the recent annual meeting of the American Neurological Association and published in the *Journal of Nervous and Mental Disease* for July last Professor Joseph Collins gives a concise epitome of the most important work that has been done in neurology during the year past. Although no epoch-making contribution has appeared there was no dearth of effort to solve the many problems in the anatomy and pathology of the nervous system with which we are confronted. The neuron theory which to-day stands as the basis of all neurology and neuro-pathology, in spite of criticisms and of the most elaborate histological investigations, has become more firmly established than ever. Recent researches, notably those of Apáthy and Bethe, were, explains Professor Collins, not in reality in antagonism to the neuron theory. All investigation tended to show that "ontogenetically the neurons (or nerve elements) became more intimately united in series and that such intimacy was structually heightened by use." There were, however, many obscurities still surrounding the question of the growth of axis-cylinders in relation to their cell bodies or trophic centres which required to be cleared up. There also remained for solution the question whether in the human cerebral cortex the presence of the dendritic cell-processes and the neuroglia sufficed to account for the relative large separation of the nerve cell-bodies, or whether a certain amount of intercellular substance remained which accounted for the appearance in question. In the field of cortical localisation the results of Horsley and Beevor as obtained by the methods of local electric stimulation of the cortex in the higher anthropoid apes had been corroborated and expanded by Sherrington and Grünbaum. Flechsig in the latest of his wonderful researches on the association-centres of the human brain was able to show that from 30 to 40 "areas" or centres could be mapped out on the brain in accordance with their times and rates of development. Important confirmation of the same had come from the researches of Schäffer of Budapest and Storch of Breslau on general paralysis. Much attention had been devoted to the study of tendon reflexes—the most important and valuable discovery in this direction being the so-called Babinski reflex, which is now accepted as a definite indication of degeneration of the pyramidal tract. The subjects of "toxæmia" and of "internal secretion" were receiving more attention, and further investigations in these directions were needed to elucidate the pathology of exophthalmic goitre, acromegaly, and allied disorders. Quite recently Professor Mills of Philadelphia had shown that the Roentgen rays were of use in determining the site and occurrence of certain kinds of cerebral tumours. Dr. Henry Head had published a suggestive report upon visceral disease and the mental changes accompanying them, and there was still great room for the further investigation of such neuroses as hysteria neurasthenia and hypochondriasis in which mental disorders co-existed. On the whole, concludes Professor Collins, there has been more than usual activity in the realms of neurology and questions of the vastest importance were still awaiting solution.

THE RECEPTION OF DEAD BODIES AT HOSPITALS.

AN inquest was recently held at the London Hospital by Mr. Wynne E. Baxter on the body of a female child, aged about 14 days, of unknown parentage. It was stated in evidence that the child was brought in after death had taken place by a woman who stated that the child had been treated at the hospital on the previous day. The cause of death was found to be bronchitis. The woman gave a name and address but the information was found to be false. Some of the members of the jury made remarks which we consider not only uncalled for but showing ignorance of the responsibilities which the resident medical officers should or should not take upon themselves. Dead bodies are frequently brought to the hospitals and the medical officer on duty having obtained the name and address of the deceased and of those bringing the body, and having made inquiries as to the nature of the illness or accident which was supposed to have caused death, has discharged his duties satisfactorily. It would be on very rare occasions that he would be justified in detaining persons who had brought in the dead body and calling the police. The position of the medical officer is strictly that of a medical man and not that of a detective.

THE RESULTS OF A VOLCANIC ERUPTION.

AT a recent meeting of the French Academy of Medicine M. Kermorgant gave some details taken from reports of the colonial medical officers of the condition in which the victims of the St. Pierre catastrophe were found. In the centre of the town there had apparently been the most violent explosion. Bodies were found shattered to pieces or with several fractures in the arms and legs. In many cases the skulls were broken to pieces and empty. Further away from the centre of the town bodies were found lying exactly as they had fallen at the moment of death and these were in great part carbonised. Death appears to have occurred either from the inhalation of gases at an extremely high temperature which had brought about sudden coagulation of the blood or from electric shock. Those persons who had not been killed instantaneously must have had terrible difficulty in breathing. The nose was generally full of dust and fragments of pumice. The pharynx and the larynx showed traces of burning as low down as the bronchi. In some instances portions of mucous membrane had sloughed.

These details are full of interest and appear to justify what we wrote in our issue of May 17th, that "it is, however, some consolation to reflect that the wholesale destruction of human life by rivers of molten lava deluging a town or by the incessant hail of hot sulphurous cinders filling the air does not necessarily imply an agonising death. On the contrary, it is probable that, in some instances at any rate, there is no struggle—the vapours of lava would quickly overpower and render the victims senseless and in this state they would probably be overcome by asphyxiation and die." In the same article we remarked that it was reported that many of the bodies presented the appearance of having been struck by lightning.

CHOLERA IN EGYPT.

THE following figures show the distribution of cholera throughout Egypt for the week ending August 4th. The total number of cases was 346, of which 185 were new cases. The total number of deaths was 278, of recoveries 13, and 109 cases remained under treatment. The Director-General of the Sanitary Department reports that he is glad to be able to state that the diminution in the number of cases reported from Cairo last week continues, and it is to be hoped that the epidemic in this city will take no further very serious proportions. The disease is spreading somewhat in the vicinity of Assiout. The report continues:—

> During the week Abou Tig, Deirout, Mellawi, Beni-Masoud, and Beba have declared cases but in none of the towns up to the present has the disease shown any tendency to spread in an alarming manner. It is much to be hoped that we have succeeded in finding the first cases early and so shall be able by vigorous measures to prevent the spread of the disease in these towns, but I fear it must be expected for some time to come that we shall hear of fresh towns becoming infected from time to time. A marked improvement has taken place at Moucha during the last few days. The Sanitary Commission of Cairo has recommended the permanent closure of all wells in Cairo the water of which is considered contaminated by leakage from cesspools, &c. This measure, which is, in my opinion, of the greatest importance not only for the prevention of the spread of cholera during the present epidemic but also for the prevention of so much enteric fever in the town, which no doubt is due in a great measure to the consumption of water from polluted wells, will be taken in hand at once. In all towns infected special hospitals have been established for the reception of patients and all possible measures taken to prevent the spread of the disease.

SYNTHETIC SILK.

SYNTHETICS loom large even now, although it is true that attention has chiefly been turned to the synthesis of drugs. But there is no reason why equal success should not attend the efforts of the chemist to build up articles of food, drink, and clothing from their elements in the same way as mere chemical compounds have been constructed. It is only a question of the growth of knowledge of the constitution of matter. Already the synthesis of many articles of common daily occurrence has been effected. The aniline colouring matters are practically synthetics; indigo and madder are common products of the laboratory; and sugar and alcohol may be prepared from the elements which compose them. The latest achievement of the building chemist appears to be the artificial production of at any rate the most important constituent of silk. Chemists have long known that the chief constituent of silk—insects' cocoons and spiders' threads—is an insoluble proteid, behaving very much in the same way as proteids in general of which the albumins are types. Mulberry silk in particular consists of over 70 per cent. of a proteid substance termed fibröin associated with 22 per cent. of a yellowish transparent substance resembling gelatin in composition and character and known as sericin. These two albuminous substances occur in silk with about 3 per cent. of wax and 1 per cent. of mineral matter. It is sericin, however, or rather its derivative by hydrolysis, serine, which has been successfully synthesised, and inasmuch as silk owes its peculiar and delightful character largely to this substance there is no doubt that an important step towards the artificial manufacture of silk has been made. Day by day synthetics are forcing themselves upon our notice and are threatening to take a place somewhere or other in man's ordinary routine. The question has still to be settled whether a synthetically or artificially prepared substance—that is, one which is identical as far as can be judged with the natural product—gives precisely the same satisfactory results. Most people, we are sure, will confess so far to a sneaking preference for the thing which nature takes time to elaborate rather than for the product conjured up, so to speak, in a few hours in the laboratory. But already it is getting difficult in some directions to obtain the natural article. It is so, at any rate, with indigo; and it is just possible that in the near future it will be no uncommon experience to hear in the shops a customer precise in his demand for either the synthetic or natural article in accordance with his choice. It is to be feared, however, that as synthetic successes are scored so fresh room for fraud will be opened and this fact is quite sufficient to raise a prejudice in the meantime.

A NEW PATHOLOGICAL SCHOLARSHIP.

IT was mentioned at the meeting of the British Medical Association recently held at Manchester that Mr. J. Francis Mason of Freeland Lodge, Woodstock, Oxfordshire, had, through Dr. T. F. S. Caverhill of Edinburgh, offered a scholarship of £200 a year with extension to two or three years if the work seems to promise good results, for the purpose of carrying on investigation into the physiology and pathology of the thymus gland, including if necessary collateral investigations on the other ductless glands. The founder of the scholarship has associated with himself Dr. Caverhill and Professor G. Sims Woodhead to act as a small committee for the purpose of selecting a suitable candidate. In filling up the scholarship preference will be given to those who have already made a study of the thymus or other ductless glands, or have given some evidence of their fitness to carry on this or similar work, and who will devote the whole of their time during their tenure of the scholarship to the special research mentioned. Every facility for carrying on this work in the Pathological Laboratories, Cambridge, will be placed at the disposal of the scholar, and further particulars will be found in our advertisement columns.

HYPOPLASIA OF THE AORTA.

IT more than occasionally happens that morbid conditions of rare occurrence are shown to exist more frequently than was previously imagined. This may be explained partly by improved methods of examination (e.g., actinomycosis) or because, attention having been drawn to one or two instances, certain observers keep close watch on all cases likely to prove of the same nature. In a communication which we published in THE LANCET of August 9th, p. 358, Dr. W. Lee Dickinson records four cases of hypoplasia of the aorta—a condition which has not been generally recognisable on account of its rarity. As Dr. Dickinson points out, the cases he records having occurred within 10 years in the experience of a single hospital suggest that the association of aortic hypoplasia and aneurysm should be worth looking for in the future, especially, perhaps, in those cases of aneurysm which are least susceptible of explanation by ordinary causes, such as aneurysms in women and young children. Women are notoriously more liable to hypoplasia than men and the suggestion presents itself that some degree of hypoplasia, not necessarily to be seen unless searched for, may be the reason for the more untoward course of their aneurysms. Dr. Dickinson further mentions the connexion alleged to exist between arterial hypoplasia and

hæmophilia, a disease which modern clinical pathology has proved to depend essentially upon deficient coagulability of the blood. He adds that although hypoplasia does not always, or even generally, imply hæmophilia it at least constitutes an ominous link between aneurysm and the possibility of an undesirable condition of the blood. This suggestion may have an important bearing on the treatment of aneurysm and must certainly be taken into account when forming a prognosis. Dr. Dickinson has done good service in drawing attention to a condition that has been but little studied.

THE RECENT EPIDEMIC OF SMALL-POX IN GLASGOW.

IN the year 1896 five cases of small-pox occurred in Glasgow. In 1897 there were 59 cases, but from the early winter of that year until March, 1900, the city appeared to be quite free from the disease, except for one patient who was admitted into hospital on June 5th, 1899, having apparently fallen a victim from exposure to infection in Marseilles. On March 16th, 1900, a steamer arrived at Glasgow from Bombay *viâ* Liverpool, at which latter port small-pox was found to be on board; the crew were therefore kept under medical observation during the time that the vessel lay at Glasgow—namely, from March 18th to 21st. On April 10th Dr. A. K. Chalmers, medical officer of health of Glasgow, was asked to see a case of illness in an overcrowded one-apartment house, No. 3, Tobago-street, in the central sanitary district of the city. The patient was one of the crew of the steamer in question. He had been reported to Dr. Chalmers as having gone away on board the vessel on March 21st, and he had in fact signed the ship's articles for the outgoing voyage, but he remained on shore at the time of sailing; he was now near the end of the second week of an attack of confluent small-pox, and he soon died; no medical aid had been obtained until April 9th. It was a considerable time since any tenement in the city had been exposed to such concentrated and continued infection as this, and by April 23rd it was found that 11 other cases had originated from this man's illness. The disease thus casually introduced has continued to exist until practically the present time, with periods of greater or less prevalence and an interval of more than three months—namely, from the middle of July to the beginning of November, 1901, during which it seemed to be absent. From the commencement of the outbreak in April, 1900, to the end of that year there were 397 cases or an average of about 10 per week, but during the fortnight ended Jan. 26th, 1901, there occurred 350 cases and the numbers for each of the four next fortnights were successively 202, 127, 299, and 161. The total for the year 1901 was 1399. The number of cases from the beginning of 1902 up to May 3rd was 459. As already mentioned there was an interrupted continuance of small-pox from April, 1900, to July, 1901. In his voluminous report on this formidable outbreak Dr. Chalmers classifies this epoch as the "pre-epidemic and epidemic periods." During this time there occurred 1759 cases, in only 10 of which the patients were not removed to hospital, the attacks having ended in death or recovery at home before their nature was recognised. There were 234 deaths. As the accepted number of the population is 761,712 these figures represent an attack-rate for the whole population of 2·3 per 1000, a death-rate of 0·3 per 1000, and a case mortality of 13·3 per cent. His detailed statistics repeat and emphasise what has been common knowledge as to the protective power of vaccination. Another interesting section of his report describes the measures taken for the promotion of revaccination among the general public. When the outbreak had been about two months in progress—namely, in June, 1900—he was authorised by the health committee to issue a circular to the medical profession urging the desirability of general revaccination and offering them a fee of 1*s.* 6*d.* for each successful revaccination of persons over 10 years of age and unable to pay for the operation. There were 964 revaccinations performed by practitioners in terms of this circular, and at the same time about 7000 revaccinations were performed by officials of the health department. When the epidemic increased greatly in January, 1901, a fresh circular was issued offering a fee of 1*s.* 6*d.* for revaccinations of persons over five years of age and withdrawing the stipulation regarding their inability to pay fees. The age limit was reduced to five years because of the number of children admitted with trifling vaccination cicatrices. Dr. Chalmers says: "The immediate result of these was to convert the consulting-rooms of practitioners in infected districts into vaccination stations, where the work of revaccination went on frequently for hours daily." The recurring increase in the number of admissions to hospital early in March led to the adoption of a system of house-to-house visitation, and a circular was issued to practitioners offering a fee of 2*s.* 6*d.* for vaccinations so obtained. The summary of the revaccinations done by the officers of the sanitary department and by practitioners during 1901 was as follows:—At office, 486; in hospitals, 556; at residence, by staff of department, 14,763; in prisons and poorhouses, 11,293; by practitioners, in terms of circular letter of Jan. 24th in 1901, 283,423; by special vaccinators working in enumeration districts, 29,081; by practitioners in enumeration districts, in terms of circular letter of March 7th in 1901, 12,424; total, 352,026. The number of tubes of glycerinated calf lymph issued to practitioners in the first four months of 1901 was as follows: in January, 18,141; in February, 37,143; in March, 39,737; and in April, 1706. From June 1st, 1900, to March 1st, 1902, the amount expended in connexion with revaccination was as follows: calf lymph, £4570; fees to practitioners, £22,776; fees to extra vaccination staff, &c., £4177; fees to prison and parish surgeons, £713; total, £32,236. The justification of this outlay is to be found in the fact that no case of small-pox occurred in a person recently revaccinated prior to exposure to infection; there were, however, 126 cases of the well-known condition of concurrent variola and vaccinia, showing that revaccination had been performed subsequently to exposure to small-pox infection—i.e., after the disease had been already contracted. A very important and instructive section of Dr. Chalmers's report is that in which he discusses the dissemination of small-pox and comes to the conclusion that a hospital for the disease may become a source of infection for the neighbourhood. Nearly 20 years ago Mr. W. H. Power, the present medical officer of the Local Government Board, conducted a similar inquiry and came to a similar conclusion with respect to the small-pox hospital at Fulham in the west of London, and we have recently published articles making like allegations against the small-pox ships moored in the Thames opposite Purfleet.[1]

CANCER RESEARCH FUND.

THE Executive Committee of the Cancer Research Fund has decided, as may have been seen by reference to our advertisement columns last week, to appoint a general superintendent to supervise the investigation into the causes, prevention, and treatment of cancer. The duties of the office will include: (1) the general direction of laboratory investigation; (2) the supervision of workers appointed by or receiving grants from the committee; (3) the collection of statistical, dietetic, topographical, and other information; (4) the organisation of a system of correspondence with colonial,

[1] THE LANCET, Jan. 25th (p. 273), Feb. 22nd (pp. 495 and 534), and April 26th (p. 1172), 1902.

Indian, and foreign laboratories and workers; and (5) attendance at the meetings of the Executive Committee or any committee appointed by them for special purposes relating to the investigation. The general superintendent may also be appointed director of the central laboratory. For further information reference should be made to the Secretary, Examination Hall, Victoria Embankment, London, W.C., to whom applications must be sent before Oct. 1st. It is the intention of the Executive Committee to make appointments early in that month, when a serious start to carry out the objects of the fund will be made.

THE DISTRIBUTION OF PLAGUE.

THE weekly return of the Director-General of the Sanitary Department in Egypt shows that for the week ending August 3rd there were 3 new cases admitted, all of which occurred in natives. The deaths numbered 2, the recoveries 9, and 13 cases remained under treatment. With respect to sanitary measures, 18,775 rooms were disinfected and 504 were lime-washed, 78 sacks of effects were disinfected, and 1761 sacks of rubbish were burnt. The number of rats killed and burned was 1128. As regards the Mauritius, a telegram from the Governor, received at the Colonial Office on August 12th, states that for the week ending August 9th there were 2 cases of plague of which 1 was fatal. As regards Hong-Kong, a telegram from the officer administering the Government, received at the Colonial Office on August 12th, states that for the week ending August 9th there were 14 cases and 13 deaths.

A CONGRESS OF GYNÆCOLOGY AND OBSTETRICS IN ROME.

A Congress of Gynæcology and Obstetrics will be held in Rome on Sept. 15th and following days. The Secretary-General to the congress is Dr. Ernesto Pestalozza, director of the Maternity Hospital at Florence. The payment of 25 lire (about £1) ensures membership to a duly qualified medical man and railway rates to members of the congress producing their tickets will be reduced by one half. In connexion with this congress we are asked to announce that British physicians and surgeons who propose going to Italy will be made very welcome at Salsomaggiore if they desire to visit the place and will communicate with the thermal establishments. A supplementary ticket to Salsomaggiore from Spezzia or Borgo will be presented to them. About Sept. 11th a commemoration monument to Edoardo Porro, the well-known obstetrician, will be unveiled at Salsomaggiore, a ceremony at which British gynæcologists may like to be present.

THE LIFE-HISTORY OF FILARIA BANCROFTI AND FILARIA IMMITIS.

IN another column we publish a paper by Dr. Louis W. Sambon, entitled "Remarks on the Life-History of Filaria Bancrofti and Filaria Immitis." Dr. Sambon criticises a paper by Dr. Giovanni Noè in which the last-named authority strives to prove that the filaria immitis is introduced into the human body by means of mosquito bites, attempting to combat what he terms Dr. Patrick Manson's suggestion that infection can take place through ingestion. In our opinion Dr. Sambon's is a well-reasoned and destructive criticism. He clearly proves the fallacies of Dr. Noè's experiments, pointing out that his observations are unsatisfactory and his conclusions ill-founded. He contrasts Dr. Noè's rashness with the caution of Dr. Manson who, having made a special study of filaria for upwards of 20 years, expressed himself with the utmost caution as to the manner in which human beings are infected. Dr. Sambon's paper affords interesting reading; further observations must be made before the analogy of malarial infection can be established with regard to the filaria immitis.

DISCREDIT TO WHOM DISCREDIT IS DUE.

IN the daily papers last week the death of a lady was reported under the far too familiar heading "Fatal Cycle Accident." According to the evidence at the inquest the deceased, who was 84 years of age, was crossing the street near the Army and Navy Stores, Westminster, when she was knocked down, sustaining a fracture of the femur which subsequently proved fatal. A witness, who was not contradicted, said that the unfortunate lady was alongside his bicycle when a cab in front of him suddenly turned round, forcing the machine against her. He did all that was possible to avoid an accident but could not. The verdict of the coroner's jury was "Accidental death." Some days later, in Kensington High-street, a gentleman met with his death while riding in a trailer which was attached to a motor-cycle driven by his brother. A van in front suddenly turned into Warwick-road, the result being a collision, during which the deceased was thrown violently from his seat, sustaining a fracture of the skull with other injuries which led to his death. The man who was driving the van stated that before he turned into Warwick-road out of the main thoroughfare he gave due warning by waving his whip, but the rider of the cycle contested this, asserting positively that no recognisable signal was made. In this case also the verdict was "Accidental death." The deplorably long list of accidents in which cycles are concerned is not due so much to reckless or furious riding on the part of the cyclists as to carelessness and indifference on the part of the drivers of vehicles. The latter very often turn down side streets or even completely round in the same street without looking behind them or warning the after-comers of their intentions. Primarily, of course, it is the duty of a driver to look where he is going, but the present state of urban traffic makes it necessary that he should on occasion take a more comprehensive survey. The construction of many vans which are permitted to ply in crowded places is certainly conducive to negligence on the part of apathetic drivers—a view to the rear, and even in some cases sideways, being only obtainable at the expense of personal inconvenience. The unstable cyclist being so often a helpless factor in the causation of street accidents, it certainly does seem unfair that he should be compelled to wipe up, as they say in France, the whole of the discredit. But the crowded streets of cities are not suitable for bicycles.

LOST FINGER-TIPS RESTORED BY "SPONGE EDUCTION."

IN *American Medicine* of July 26th Dr. George E. Abbott of Pasadena, California, describes two cases in each of which, after the tip of the right index finger had been crushed off, he succeeded in bringing about an elongation of the stump to the extent of at least half an inch. In the first case the portion of the nail left after the accident measured only one-sixteenth of an inch. After two or three days the skin began to close in and round over the top of the finger. Dr. Abbott then commenced treatment by "sponge eduction," leading on the granulattons by means of a sponge graft so placed that the granulations of the pulp would grow onward and guiding those of the skin until it was time for them to bend round the point of the finger. The result was that the finger became quite half an inch longer than it would have been had it been allowed to heal in the usual manner, a well-shaped nail was formed, and there was, in fact, no disfigurement whatever. The second patient came under treatment two weeks after the accident. Dr. Abbott found that more than half an inch of the right index finger had been crushed

off. The entire nail and apparently all of the matrix were crushed; there was no nail whatsoever, a little callous ridge alone showing an abortive attempt to redevelop the nail; the stump had completely healed except at the extremity where there was a mass of exuberant granulations about an eighth of an inch in diameter. The same treatment was followed as in the previous case, with the result that the finger was advanced fully half an inch. Photo-prints of the restored fingers accompany the article. The operations were performed as follows. The patient having been anæsthetised a straight incision was made from side to side through the stump, just as a knife would be passed under the matrix and root of the nail had it been in place. This gave one straight flap on the back of the finger in which the nail was to develop, in the event of any part of the matrix being still in a living condition. The end of the stump was then incised into four triangular-shaped flaps having their apices at the centre of the nail-flap and their bases at the circumference of the stump. These were then dissected up so that when the finger was held upright they formed a crown around the stump except at the back, which was occupied by the matrix flap. Into this crown, in close contact with the denuded end of the finger, was placed the sponge graft into which the granulations were to grow. The sponge was held in place by adhesive plaster, bandaged with gauze; it was kept constantly wet with warm normal salt solution. The sponge (in place) was syringed every day with a solution consisting of one part pyrozone (a solution of peroxide of hydrogen), one part saturated solution of boric acid, and two parts of sterilised warm water. Every three days the adhesive strips and the old sponge were removed and replaced by new. Sponge grafts for surface work and eduction sponges (mastoid-shaped portions used to stimulate granulations for filling up cavities) must be made of fine-grained, stiff sponge, not of coarse, soft, open sponge; it is essential that the sponge should be cut transversely to its pores or tubes.

"OPENINGS FOR BEGINNERS."

IT has been represented to us by an energetic medical society in the suburbs of London that advertisements, very generally headed "Opening for medical practitioner" or "Suitable to a medical man beginning practice," are extremely misleading in character. It is seldom that an advertisement of this sort gets into the columns of THE LANCET. In most cases these advertisements are simply part of an agent's or auctioneer's scheme to get rid of a house and the opening exists only in the tradesman's imagination. The medical man, who is always asked a higher rent than other people because of the alleged advantages of the house, generally finds that he cannot support himself in the neighbourhood and leaves within a few weeks, forfeiting perhaps a year's rent. We therefore give this word of warning to our readers.

THE PREVALENCE OF SMALL-POX.

THE following figures show the number of patients admitted to the various hospitals of the Metropolitan Asylums Board for the dates mentioned. On Sunday, August 10th, there was 1 fresh case; on Monday, the 11th, there were 3 fresh cases; on Tuesday, the 12th, there were 5 fresh cases; and on Wednesday, the 13th, there was 1 fresh case.

THE authorities of the Cancer Hospital, Brompton, have entirely re-organised their pathological department and a new laboratory is being fitted up with all requisite appliances for research. A pathologist is to be appointed to work in conjunction with, and under the direction of, Mr. H. G. Plimmer who has been pathologist for many years to the institution and who will now become director.

HIS MAJESTY THE KING on August 12th visited the Museum of the Royal College of Surgeons of England accompanied by Sir Frederick Treves. The visit was quite private.

Looking Back.

FROM

THE LANCET, *SATURDAY, AUGUST 14*, 1824.

PHARMACEUTICAL CHEMISTRY.

Digitaline.

M. AUGUSTUS LE ROYER lately read to the Society of PHYSICS and NATURAL HISTORY of GENEVA the following paper,[1] on the active principle contained in the digitalis purpurea (foxglove).

In separating, by skilful analysis, the active principles of different medicinal substances, M. PELLETIER has conferred on science the most important service. The use of these new substances becomes every day more familiar to practitioners. They find in them the double advantage of being able to administer in very small doses a powerful medicine, with the quality of which they are accurately acquainted. Those who direct their attention more particularly to the subject of materia medica, could however occupy their time better than in following the steps of this eminent chemist, viz. by analysing those plants which have hitherto escaped M. PELLETIER'S notice. Under this impression, I undertook the analysis of the digitalis purpurea, or foxglove, of which I subjoin the principal results.

Preparation.—I took a pound of the digitalis purpurea, such as you buy in the shops, and treated it in the following manner: first, with cold ether, then by this same agent warm, in a retort, so as to be able to elevate the temperature; the liquids thus obtained, after they had been filtered, were of a yellowish green colour, and a bitter taste; the residue, from their evaporation, had a resinous appearance, and an intolerably bitter taste, and which gave to the tongue the same sensation of numbness as is excited in biting the wolf's bane. This residue, exposed to the air, rapidly attracted the moisture. It became divided into two parts when mixed with distilled water. One of these was kept in solution; the other was precipitated, and presented all the appearances of *chlorophyle;* it was not however pure, but still retained some traces of the bitter matter, which could not be removed entirely, even by repeated ablutions with warm water. The watery solution of the etherized residue turned yellow litmus paper red. I added to it some hydrate of the protoxide of lead, to neutralise the disengaged acid contained in it. The salt of lead which was produced was soluble, and could not therefore be separated from the bitter principle; those which the addition of some earths formed could not be separated either, and I was obliged to have recourse to some other means. I evaporated then to dryness the portion combined with the lead, and mixed it with pure rectified ether. The result of this operation was, that I obtained in solution in the ether, the active principle of the digitalis, disengaged from the substances with which it was in combination; and subsequent evaporation furnished me with a brown ponderous substance, gradually changing to a blue colour the yellow paper previously reddened by an acid. This last character, together with its bitter qualities, approximated it to the vegetable alkalis; from which, however, its extreme liquefaction separated it. This last property prevented it from crystallizing in a distinct and permanent manner; it can nevertheless be ascertained, by the aid of a microscope, that it crystallizes in direct prisms, with rhomboidal bases.

PURULENT OPHTHALMIA.

This disease, which is an inflammation of the eyes, attended with a profuse discharge of purulent matter, is at the present time very prevalent in London. It is of an exceedingly contagious nature, and those individuals who have the care of schools, or of large establishments, should be particularly cautious to prevent the propagation of the complaint, by not allowing the diseased persons to be placed in immediate contact with the healthy, whether by sleeping in the same beds, or by using the same towels.

[1] The excerpt comprises an extract from the paper.

THE KING'S CORONATION GIFT.

ON August 11th His Majesty the King received in audience the Right Hon. Sir Joseph Dimsdale, Bart., M.P., Lord Mayor of London, the Viscount Duncannon, C.V.O., C.B., and Sir Savile Crossley, Bart., M.P., M.V.O., who presented the Coronation Gift of £115,000, subscribed by all classes of His Majesty's subjects, including nearly 20,000 donations in pence given by working people, and who informed His Majesty that there would be a substantial balance on the closing of the accounts, and that increased support had also been secured by King Edward's Hospital Fund for London, the Hospital Sunday Fund, and the Hospital Saturday Fund in his coronation year.

His Majesty the King, in graciously receiving the gift, expressed in most feeling and sympathetic terms the pleasure which he experienced in the fact that this tribute embraced the offerings of the poorer classes of his subjects equally with those of the richer. His Majesty further conveyed the great gratification he felt that in this year such considerable progress had been made towards the attainment of the object which he had in view when, in celebration of the Diamond Jubilee of his beloved mother, Queen Victoria, he originated the Fund, in which Her late Majesty took so keen and so sincere an interest. The aim of that Fund was to free the London hospitals from debt, an end which, until it was finally accomplished, he should not cease to strive after while God spared his life. The King then handed the Coronation Gift to His Royal Highness the Prince of Wales, President of King Edward's Hospital Fund for London, to the augmentation of which he desired it to be applied.

A PATIENT'S SUGGESTIONS.

BY W.

IT has occurred to me that papers written by patients themselves upon points which occur to them as the most practical and important for their comfort and treatment would be a very valuable addition to the literature of treatment. Moreover, I think that there are very few patients who would not be glad of the opportunity of doing some good to those who may be suffering like themselves.

The following notes have been put together as they have occurred to me and without any strict attention to the natural sequence of the principles of treatment and with the idea of arranging them in some more definite order when they are completed; but when will that be? Medical men, nurses, and attendants will probably find some such notes of value and patients themselves may be the gainers by them. Moreover, it may suggest to other patients some new ideas and very likely improvements upon those that are put down in these papers. I have been inclined to work back from the present condition of my illness, as it is more easy to set down any notes or suggestions for the treatment of the present than to carry one's mind back to any time in the past.

My present condition on which these notes have been based.—There is almost complete loss of power in the voluntary muscles, but without pain. There is inability to walk, but I am able to stand when the knees are prevented from bending and when I am balanced by some helper for a few seconds. I am unable to use my hands for writing but the arms can be raised slightly by means of the deltoid, especially when gaping. The appetite is satisfactory. My hearing is excellent. My sight has decidedly improved since 1878. There is loss of power in the external rectus muscle of the right eye. This was the first symptom of my illness in 1878.

Clothing.—It is of the greatest importance to keep warm. The clothes should be very loose and comfortable. The best overcoat is an ulster so made as to be thrown over the back. The sleeves should be separate and buttoned on to the overcoat after it has been put on. An elastic band to keep the cape from flying about is useful. My overcoat was made by a local tailor. One waistcoat I had made to button at the side, but this was not found to be of any advantage. The hat in winter time should have ear-flaps. The indoor cap should be very light, but especially it should have protection for the back of the neck. The boots should be very easy; gaiters are a great advantage in summer and in winter. Fur-lined boots are especially good for winter and patent leather slippers for summer. I have found that gloves in winter are best when made without fingers, like a fisherman's gloves. A separate cape is very useful in the bath-chair. Mits are very useful. Silk mits next to the skin are most comfortable.

Food.—The greatest advantage is found when the food is administered in small quantities at a time but frequently. Food should be cut very fine and minced, especially when the teeth have become defective. Soup, bovril, and meat lozenges I have found very useful, particularly when wanting a "pick-me-up," but soups are inclined to upset the digestion, especially when taken without solids. Milk in the form of boiled milk and water (equal parts) can be taken without the patient getting tired of it. A little whisky with it seems to make it more digestible. Of stimulants I have taken whisky, half an ounce twice a day with milk and two teaspoonfuls with tea. Wine has never seemed to sustain me, but produces a reaction soon after it is taken. Tea at breakfast has been most pleasant, and cocoa in the simplest forms is useful in cold weather; coffee seems irritating. Occasionally during the day a small piece of stick chocolate has been pleasant.

Occupation.—Frequent change of occupation has been found best. Generally from a quarter to half an hour has proved enough for any one subject. The morning is given to the more solid work. It is important to find some steady occupation such as reviewing, taking the weather, reading solid literature, or writing letters by deputy. The afternoon is given to seeing friends and generally about from a quarter to half an hour is enough for each one. Later in the afternoon I have solid reading. The evening I devote to light literature, games, or music. It is important to get out into the fresh air every day and the best time is between 12 noon and 1.30 P.M. The bath chair is very useful for visiting places and people but it is often found tiring. I have found sitting out in a house chair in the sun always most restful, especially when some one reads to me.

Movement.—Frequent change of position is most important. When sitting in a chair I have my position changed often. When I am lying in bed I am rolled over now and then so as to get pressure on different points; no part should be pressed on too long. For this purpose the draw sheet is of great importance. By means of this it is easy for anyone nursing to turn the heaviest patient. When sitting in a chair a horseshoe water cushion is much the most comfortable. The best chair for allowing movement is one which I have had made from a French pattern with many of my own improvements. This chair allows of the back being moved up and down, and the foot-board also.

Change.—One of the most important things, as I have just said, in securing a patient's comfort when he is unable to move is to change his position frequently, whether sitting or lying, and also to give him a change of mental occupation and observation. Reading should not be continued too long on any one subject, generally from a quarter to half an hour is enough and then a change should be made. Similarly a short visit from friends is better than a long one, but this, of course, varies with the character of the visitor. When the conversation is "all ends" it is very tiring. Too much questioning also is bad, for it tires a patient when he has to do all the talking. Deaf visitors should be avoided. Change of scene is advisable. The windows should be low so that the patient may look out. There should be either a good distant view or the possibility of seeing many passers-by. There is also nothing better than the chance of making observations on the weather. To show that frequent change is advisable I here give an outline of one day's doings. A.M.—7.30: A cup of tea is brought to my room. 8.15: I am washed by a man-servant; I am moved off the bed and put into a chair for breakfast in my bedroom. 9.30: I am moved to the commode. 10.0: I am put on the bed, lying on the right side. 10.30: I am moved off the bed again and dressed, using a "castor" chair—i.e., a chair with very good castors for moving about. 11.0: I am put into a (wheeled) house chair, taken into the dining-room, where I look over letters and have answers written till noon. 12.0: I am moved into the bath chair and taken out for an hour. P.M.—1.15: I am placed in an arm chair for lunch. 2.10: I am put into a house chair and taken into the bedroom; I rest on the left side with a light behind me so as to

enable me to read; I generally sleep for the first half-hour but remain on the bed resting for two hours in all. 4.30: I get up and am placed in a house chair and moved into another room for tea and company. 6 to 6.45: I am read to or I look over papers. 6.45: I am moved to the bedroom, prepared for dinner, and brought back to the dining-room and placed in an arm chair for dinner. 7.30: I am moved on to the sofa, resting on my left side, and I listen to reading or join in games or talk or listen to music. 9.0: I am moved into the wheeled chair and taken to the bedroom and I undress. I am placed on the left side with my head and shoulders well supported and am careful to avoid any pressure against any bony points. It is necessary to be adjusted carefully until I am quite comfortable.

Medicine.—First night, nothing. Second night, "A.B.N." pill (one and a half grains of extract of socotrine aloes, one-eighth of a grain of extract of belladonna, and half a grain of extract of nux vomica). This had to be changed because the nux vomica produced a good deal of vesical irritation. Third night, pill of colocynth and hyoscyamus (two and a half grains). I use hot water every morning as an enema. Occasionally tablets of bismuth are taken at night. I take peppermint lozenges during the day when a stimulant is wanted, or very occasionally I have half an ounce of brandy. Fruit takes the place of aperient medicine, especially if eaten at breakfast. Stewed fruit at night is useful but this has a tendency to nauseate after a time. On the evening before taking the aperient I have found it advisable to finish my supper with a pinch of salt.

Sleep.—I never take medicines for the purpose of procuring sleep. The healthiest method of procuring sleep is mental occupation in the evening and an absence of worry. If I lie awake at night I have found a panacea in repeating three or four Latin verses, and before this has been done three times I am asleep. In the afternoon almost always sleep comes for half an hour when I am resting after dinner.

Rest.—See daily *rota*. I rest in the afternoon from 2.30 to 4.30 o'clock. I go to bed at 9 P.M. and rest till 8.30 A.M. Frequent change gives most rest. Often when feeling tired in the morning getting up and dressing seem to give me a feeling of restfulness.

Micturition.—I am thankful to say that I have never had any real difficulty with this. The amount of urine varies with the amount of fluid taken and the heat of the weather. Milk is much less irritating than anything else. If the milk is taken hot with boiling water (equal parts) it acts as a useful stimulant. In cold weather I find it more digestible and comforting if the milk and water are taken with half an ounce of whisky at meals. In the earlier period of my illness the urine was inclined to be rather more irritating, probably from less care being taken as to diet. Sherry is certainly irritating, but this I have not taken for some years. It is most important to empty the bladder thoroughly. This is effected by careful position, a horseshoe-shaped water cushion and an absence of impatience. Concentration of one's attention is advisable. Biting a biscuit is often more efficacious in starting water than is drinking fluid. A circular cushion was found to interfere with the flow. My impatience once led me to percuss frequently over the region of the bladder. The result was cystitis and considerable difficulty which lasted for about three or four weeks, and for a long time the cause of this was not recognised. A soft rubber catheter and plenty of oil relieved the difficulty and after this more care was taken as to liquids. Barley water at night has been found very beneficial. In the arrangements for the day care must be taken to ensure regularity in emptying the bladder. At night a bed urinal is left in position. Always lying upon one side is preferable to lying on the back and the bed urinal is easily arranged. Sometimes when there is danger of involuntary micturition the flow is prevented by my being made to lean forward by cushion at the back.

Action of the bowels.—As every morning I am obliged to use hot water and an enema I may recommend what I have found most useful. I now use an alpha enema, which is worked by a nurse or attendant and sends in the water steadily. At first I used a folding cistern enema which I could work myself while sitting on the commode. A very excellent bedroom commode is one with a cistern of water attached to it, which is worked by the plug handle. It all closes conveniently for travelling and the arms of it form a great feature. Now I use it without the cistern.

Some curious points.—I find that when I lie upon my left shoulder and let anything press against a point somewhere about the middle of the spine of the scapula I get a curious screwing feeling in that arm, apparently from the contraction of the deltoid and other muscles. This is followed by troublesome palpitation and great uneasiness. When I am lying down on the sofa and press with my shoulder against anything hard a numbness occurs in my hand and I feel considerable restlessness. When I take too much fluid at night and apparently the stomach is distended palpitation follows until either the water passes into the bowel or flatus passes. I always lie on my left side with a tendency to be on my back. When the left leg "jumps" I know that it is the stomach that is at fault; when the right leg "jumps" I know that the rectum is the cause of the trouble and that relief will come when the flatus passes. Occasionally I have lost sight of half an object and this is relieved by not using my eyes for from a quarter to half an hour; this is generally connected with some stomach disturbance.

METROPOLITAN HOSPITAL SUNDAY FUND.

THE following is a list of the awards recommended by the Distribution Committee of the Metropolitan Hospital Sunday Fund for the year 1902:—

GENERAL HOSPITALS.

Charing Cross Hospital, £1207 10*s.*; French Hospital, £306 13*s.* 4*d.*; German Hospital, £594 3*s.* 4*d.*; Great Northern Central Hospital, £1054 3*s.* 4*d.*; Guy's Hospital, £2575; Hampstead Hospital, £239 11*s.* 8*d.*; Italian Hospital, £115; King's College Hospital, £1437 10*s.*; London Hospital, £6181 5*s.*; London Homœopathic Hospital, £527 1*s.* 8*d.*; Phillips' Memorial Homœopathic Hospital, £34 10*s.*; London Temperance Hospital, £776 8*s.*; Metropolitan Hospital, £862 10*s.*; Middlesex Hospital, £2287 10*s.*; Miller Hospital and Royal Kent Dispensary, £267 10*s.*; North-West London Hospital, £431 5*s.*; Poplar Hospital, £622 18*s.* 4*d.*; Queen's Jubilee Hospital, £96 16*s.* 8*d.*; Royal Free Hospital, £1245 16*s.* 8*d.*; St. George's Hospital, £1916 13*s.* 4*d.*; S.S. John and Elizabeth Hospital, £143 15*s.*; St. Mary's Hospital, £2491 13*s.* 4*d.*; St. Thomas's Hospital, £1341 13*s.* 4*d.*; Seamen's Hospital Society, £1293 15*s.*; The Middlesex Hospital, £2309 11*s.* 8*d.*; Tottenham Hospital, £383 6*s.* 8*d.*; University College Hospital, £1303 6*s* 8*d.*; Walthamstow, £105 8*s.* 4*d.*; West Ham Hospital, £527 1*s.* 8*d.*; West London Hospital, £814 11*s.* 8*d.*; Westminster Hospital, £1389 11*s.* 8*d.*

CHEST HOSPITALS.

City of London Hospital for Diseases of the Chest, Victoria-park, £966 6*s.* 8*d.*; Hospital for Consumption, Brompton, £1820 16*s.* 8*d.*; Mount Vernon Consumption Hospital, Hampstead, £670 16*s.* 8*d.*; Royal Hospital for Diseases of the Chest, City-road, £383 6*s.* 6*d.*; Royal National Hospital for Consumption (Ventnor), £383 6*s.* 8*d.*

CHILDREN'S HOSPITALS.

Alexandra Hospital for Hip Disease, W.C., £239 11*s.* 8*d.*; Banstead Surgical Home, £23 19*s.* 2*d.*; Barnet Home Hospital, £43 2*s.* 6*d*; Belgrave Hospital for Children, S.W., £124 11*s.* 8*d.*; Cheyne Hospital for Incurable Children, S.W., £124 11*s.* 8*d.*; East London Hospital for Children, Shadwell, E., £766 13*s.* 4*d.*; Evelina Hospital for Sick Children, Southwark, S.E., £287 10*s.*; Home for Incurable Children, Maida Vale, W., £76 13*s.* 4*d.*; Home for Sick Children, Sydenham, S.E., £134 3*s.* 4*d.*; Hospital for Sick Children, Great Ormond-street, W.C., £1064 2*s.* 4*d.*; North-Eastern Hospital for Children, Hackney-road, N.E., £287 10*s.*; Paddington-green Hospital for Children, W., £297 1*s.* 8*d.*; St. Mary's, Plaistow, E., £249 8*s.* 4*d.*; St. Monica's Brondesbury, N.W., £95 16*s.* 8*d.*; Victoria Hospital for Children, King's-road, Chelsea, S.W., £460; Victoria Home, Margate, £47 18*s.* 4*d.*; "The Vine," Sevenoaks, £43 2*s.* 8*d.*

LYING-IN HOSPITALS.

British Lying-in Hospital, Endell-street, W.C., £28 15*s.*; Clapham Maternity Hospital, £38 6*s.* 8*d.*; East-End Mothers' Home, £76 13*s.* 4*d.*; General Lying-in Hospital, Lambeth, S.E., £57 10*s.*; Queen Charlotte's Lying-in Hospital, Marylebone-road, W., £479 3*s.* 4*d.*

HOSPITALS FOR WOMEN.

Chelsea Hospital for Women, S.W., £421 13*s.* 4*d.*; Hospital for Women, Soho-square, W., £143 15*s.*; Grosvenor Hospital for Women and Children, Vincent-square, S.W., £172 10*s.*; New Hospital for Women, Euston-road, W.C., £306 13*s.* 4*d.*; Royal Hospital for Children and Women, Lambeth, S.E., £268 6*s.* 8*d.*; Samaritan Free Hospital, Marylebone-road, W., £492 6*s.* 8*d.*

OTHER SPECIAL HOSPITALS.

Cancer Hospital, Brompton, S.W., £527 1*s.* 8*d.*; London Fever Hospital, Islington, N., £718 15*s.*; Gordon Hospital for Fistula, Vauxhall-bridge-road, S.W., £23 19*s.* 2*d.*; St. Mark's Hospital for Fistula, City-road, E.C., £143 15*s.*; National Hospital for the Diseases of the Heart, Soho-square, W., £76 13*s.* 4*d.*; Female Lock Hospital, Harrow-road, W., £306 13*s.* 4*d.*; Hospital for Epilepsy, Paralysis, and other Diseases of the Nervous System, Regent's-park, N.W., £47 18*s.* 4*d.*; National Hospital for the Paralysed and Epileptic, W.C., £966 6*s.* 8*d.*; West-end Hospital for Diseases of the Nervous System, £239 11*s.* 8*d.*; Central London Ophthalmic Hospital, Gray's Inn-road, W.C., £115; Royal Eye Hospital, St. George's-circus S.E., £239 11*s.* 8*d.*; Royal

London Ophthalmic Hospital, City-road, E.C., £862 10s.; Royal Westminster Ophthalmic Hospital, Charing Cross, W.C., £134 3s. 4d.; Western Ophthalmic Hospital, Marylebone-road, W., £47 18s. 4d.; City Orthopædic Hospital, Hatton-garden, E.C., £249 3s. 4d.; National Orthopædic Hospital, Great Portland-street, W., £124 11s. 8d.; Royal Orthopædic Hospital, Oxford-street, W., £134 3s. 4d.; Royal Sea Bathing Hospital, Margate, £237 10s.; St. John's Hospital for Diseases of the Skin, £57 10s.; St. Peter's Hospital for Stone, Covent-garden, £95 16s. 8d.; Central London Throat and Ear Hospital, Gray's Inn-road, W.C., £47 18s. 4d.; Hospital for Diseases of the Throat, Golden-square, W., £249 3s. 4d.; London Throat Hospital, Great Portland-street, W., £23 15s.; Metropolitan Ear, Nose, and Throat Hospital, Grafton-street, W., £23 15s.; Royal Ear Hospital, Frith-street, W., £19 3s. 4d.; Dental Hospital of London, Leicester-square, W.C., £143 15s.; National Dental Hospital, 149, Great Portland-street, W., £38 6s. 8d.

CONVALESCENT HOSPITALS.

Metropolitan Convalescent Institution, Sackville-street, W., £870 16s. 8d.; Bexhill Convalescent Home, Sackville-street, W., £383 6s. 8d.; All Saints' Convalescent Hospital, Eastbourne, £383 6s. 8d.; Ascot Priory Convalescent Home, £67 1s. 8d.; Charing-Cross Hospital Convalescent Home, Limpsfield, £86 5s.; Chelsea Hospital for Women Convalescent Home, St. Leonards, £47 18s. 4d.; Deptford Medical Mission Convalescent Home, Bexhill, £28 15s.; Mrs. Gladstone Convalescent Home, Mitcham, £47 18s. 4d.; Friendly Societies' Convalescent Home, Dover, £38 6s. 8d.; Hahnemann Convalescent Home, Bournemouth, £38 6s. 8d.; Hanwell Convalescent Home, £19 3s. 4d.; Herbert Convalescent Home, Bournemouth, £19 3s. 4d.; Herne Bay Baldwin-Brown Convalescent Home, £23 15s.; Homœopathic Convalescent Home, Eastbourne, £19 3s. 4d.; King's College Hospital Convalescent Home, Hemel Hempstead, £172 10s.; Mrs. Kitto's Convalescent Home, Reigate, £67 1s. 8d.; Mary Wardell Convalescent Home for Scarlet Fever, £105 8s. 4d.; Morley House Convalescent Home for Working Men, £210 16s. 8d.; Police Seaside Home, Brighton, £57 10s.; St. Andrew's Convalescent Home, Clewer, £134 3s. 4d.; St. Andrew's Convalescent Home, Folkestone, £239 11s. 8d.; St. John's Home for Convalescent and Crippled Children, Brighton, £67 1s. 8d.; St. Joseph's Convalescent Home, Bournemouth, £62 5s. 10d.; St. Leonards-on-Sea Convalescent Home for Poor Children, £115; St. Mary's Convalescent Home, Shortlands, £17 5s.; St. Michael's Convalescent Home, Westgate-on-Sea, £47 18s. 4d.; Seaside Convalescent Hospital, Seaford, £95 16s. 8d.; Warley Convalescent Cottage Hospital, Essex, £9 11s. 8d.

COTTAGE HOSPITALS.

Beckenham Cottage Hospital, £67 1s. 8d.; Blackheath and Charlton Cottage Hospital, £76 13s. 4d.; Bromley (Kent) Cottage Hospital, £105 8s. 4d.; Bushey Heath Cottage Hospital, £47 18s. 4d.; Canning Town Cottage Hospital, £47 18s. 4d.; Chislehurst, Sidcup, and Cray Valley Cottage Hospital, £57 10s.; Eltham Cottage Hospital, £47 18s. 4d.; Enfield Cottage Hospital, £57 10s.; Epsom and Ewell Cottage Hospital, £62 5s. 10d.; Hounslow Cottage Hospital, £28 15s.; Livingstone Cottage Hospital, £86 5s.; Mildmay Cottage Hospital, £38 6s. 8d.; Reigate and Redhill Cottage Hospital, £86 5s.; Sidcup Cottage Hospital, £38 6s. 8d.; Tilbury (Passmore Edwards) Cottage Hospital, £38 6s. 8d.; Willesden Cottage Hospital, £86 5s.; Wimbledon Cottage Hospital, £52 14s. 2d.; Woolwich and Plumstead Cottage Hospital, £43 2s. 6d.

INSTITUTIONS.

Establishment for Gentlewomen, Harley-street, £105 8s. 4d.; St. Saviour's Hospital and Nursing Home, £115; National Sanatorium for Consumption, Bournemouth, £86 5s.; Invalid Asylum, Stoke Newington, £47 18s. 4d; Firs Home, Bournemouth, £19 3s. 4d.; St. Catherine's Home, Ventnor, £28 15s.; Friedenheim Hospital, Home of Peace, £287 10s.; Oxygen Home, Fitzroy-square, £38 6s. 8d.; Santa Claus Home, Highgate, £43 18s. 4d.; St. John's Hospital, Lewisham, £95 16s. 8d.

DISPENSARIES.

Battersea Provident Dispensary, £101 11s. 8d.; Blackfriars Provident Dispensary, £18 4s. 2d.; Bloomsbury Provident Dispensary, £14 7s. 6d.; Brixton, &c., Dispensary, £57 10s.; Brompton Provident Dispensary, £21 1s. 8d.; Camberwell Provident Dispensary, £35 7s. 6d.; Camden Town Provident Dispensary, £18 4s. 2d.; Chelsea, Brompton, and Belgrave Dispensary, £49 16s. 8d.; Chelsea Provident Dispensary, £14 7s. 6d.; Child's Hill Provident Dispensary, £11 19s. 7d.; City Dispensary, £100 12s. 6d.; City of London and East London Dispensary, £26 16s. 8d.; Clapham General and Provident Dispensary, £28 15s.; Deptford Medical Mission, £23 19s. 2d.; Eastern Dispensary, £47 18s. 4d.; East Dulwich Provident Dispensary, £38 6s. 8d.; Farringdon General Dispensary, £52 14s. 2d.; Finsbury Dispensary, £52 14s. 2d.; Forest-hill Dispensary, £45 0s. 10d.; Greenwich Provident Dispensary, £27 15s. 10d.; Hackney Provident Dispensary, £14 7s. 6d.; Hampstead Provident Dispensary, £47 18s. 4d.; Holloway and North Islington Dispensary, £63 5s.; Islington Dispensary, £59 17s. 11d.; Kensal Town Provident Dispensary, £12 9s. 2d.; Kensington Dispensary, £71 17s. 6d.; Kilburn, Maida-vale, and St. John's Wood Dispensary, £45 0s. 10d.; Kilburn Provident Medical Institution, £35 9s. 2d.; London Dispensary, Spitalfields, £18 4s. 2d.; London Medical Mission, Endell-street, £119 15s. 10d.; Metropolitan Dispensary, £54 12s. 6d.; Notting-hill Provident Dispensary, £10 10s. 10d.; Paddington Provident Dispensary, £35 9s. 2d.; Portland Town Dispensary, £29 14s. 2d.; Public Dispensary, Clare-market, W.C., £49 16s. 8d.; Queen Adelaide's Dispensary, £25 17s. 6d.; Royal General Dispensary, £29 14s. 2d.; Royal Pimlico Provident Dispensary, £59 8s. 4d.; Royal South London Dispensary, £47 18s. 4d.; St. George's and St. James's Dispensary, £57 10s.; St. George's, Hanover-square, Provident Dispensary, £34 10s.; St. John's Wood Provident Dispensary, £42 3s. 4d.; St. Marylebone General Dispensary, £38 6s. 8d.; St. Pancras and Northern Dispensary, £35 9s. 2d.; South Lambeth, Stockwell, and North Brixton Dispensary, £51 15s.; Stamford-hill, Stoke Newington, Dispensary, £99; Tower Hamlets Dispensary, £47 18s. 4d.; Walworth Provident Dispensary, £15 6s. 8d.; Wandsworth Common Provident Dispensary, £9 11s. 8d.; Westbourne Provident Dispensary, £16 5s. 10d.; Western Dispensary, £67 1s. 8d.; Western General Dispensary, £143 15s.; Westminster General Dispensary, £42 3s. 4d.; Whitechapel Provident Dispensary, £29 14s. 2d.; Woolwich Provident Dispensary, £14 7s. 6d.

THE

BRITISH MEDICAL ASSOCIATION.

MEETING AT MANCHESTER.

THE SECTIONS.

SURGERY.

FRIDAY, AUGUST 1ST.

MR. P. J. FREYER (London) opened a discussion on

Total Extirpation of the Prostate.

One year ago he had published four cases of total extirpation of the prostate with its capsule by a new suprapubic method. A further series of 10 cases, making 14 in all, had been published only the week before. The whole of the cases had been absolutely satisfactory, save one in which death had occurred on the twenty-fourth day from acute mania. He had now seven more cases to report, with a death in one on the ninth day from sudden syncope after having progressed perfectly favourably up to that date. He referred in detail to each of the cases, and the parts removed from the whole series of 21 cases were presented to the section. For purposes of description he divided the specimens of excised enlarged prostate into three classes: (1) those in which the lateral lobes had separated along the superior commissure only, the prostate coming away entire and leaving the urethra, and probably in most cases the ejaculatory ducts, intact; (2) those in which the lateral lobes had separated along both their superior and inferior commissures and had been removed separately, leaving the urethra and the ejaculatory ducts uninjured; and (3) those in which the lobes had not separated along either commissure, the prostate being removed as a whole after the urethra and the ejaculatory ducts had been torn across, and in some instances the prostatic urethra within either partially or entirely removed. It would be found in most cases of this type that the prostate was encircled by a thin girdle of fibrous and muscular tissue, part of the prostatic sheath, so that in these not only had the prostate in its capsule been removed but in addition an actual layer of th e sheath had come away.

Professor S. ALEXANDER (New York) wished to draw attention to three points. First, as to what was the true capsule of the prostate; secondly, as to what parts of the prostate caused obstruction; and thirdly, as to the important and marked distinction there was between the lateral lobes of the prostate and that part which was to be found below and behind the seminal ducts. The true capsule of the prostate was that which embraced the whole of the prostatic tissue and was derived from the fibrous pelvic fascia. By a series of beautiful photographs of transverse and sagittal sections of the enlarged prostate he demonstrated very clearly the extent of its sheath, showing that it was wanting on the bladder side. Within this true capsule could be seen the lateral lobes, surrounded by a special envelope of their own. As to what parts of the prostate caused obstruction it was essential to recognise that the enlargement was entirely in that part above the urethra, and never in the portion in front of the seminal ducts. The urethra was thus always depressed and the larger the prostate the greater the depression. The anatomical distinction of that portion of the enlarged prostate lying below and behind the seminal ducts from that lying above the urethra was important, for this former part never caused obstruction, the so-called middle lobe being in reality always an outgrowth of a lateral lobe, but it was that part of the prostate liable to carcinoma. He was a strong advocate of the perineal route for removal of the prostate.

Professor PARKER SYMS (New York) said that he had in his earlier operations approached the prostate by the suprapubic route, but he had come to the conclusion from anatomical considerations that the prostate was rather a perineal organ than one connected with the urinary bladder and that the only proper route by which to reach it was through the perineum. This was the direct, rational, and anatomical course and left the bladder entirely uninjured. He was sure that the surgeon should be guided by clinical aspects rather than by mere rectal examination. Residual urine and cystitis were certain to place the patient in jeopardy. Whatever might be the amount and form of the enlargement of the prostate, he believed that every enlarged prostate could be removed

through the perineum. He demonstrated a special instrument which he had devised to render easy traction upon the prostate during its removal. It consisted of a rubber tube to the further end of which was attached a collapsible rubber bulb, rather of an umbrella shape. The apparatus was introduced into the bladder through the urethra and the terminal bulb was then inflated, thus producing a soft but very efficient retractor. It further tended to arrest hæmorrhage during the progress of the enucleation. He had operated on 21 cases. All the patients except one had cystitis previously to operation, two had calculi, and in one case there were 54 ounces of residual urine and the patient was delirious with a temperature of 104° F. He had lost no patient and all were completely relieved with no permanent incontinence of urine.

Mr. REGINALD HARRISON (London) based his remarks on seven specimens of enlarged prostate which had been removed by the suprapubic route. In five the results were entirely satisfactory, the patients recovering voluntary power over micturition. In the other two instances the results were not so good. In one a cicatricial contraction occurred in the neighbourhood of the deep urethra and in the other carcinoma of the prostate supervened. He had been much struck years ago by the amount of relief that many persons who were cut for stone obtained by the so-called accidental removal of portions of an enlarged prostate.

Sir WILLIAM MACEWEN (Glasgow) stated that after he had seen the large portions of the prostate which had been removed and exhibited by McGill of Leeds he had practised the suprapubic method, but in one instance because he had made a perineal incision for drainage, and had also noticed the benefit of the partial removal of the prostate in lithotomy, he began to make use of the perineal route. He not infrequently first performed perineal section, draining the bladder, and subsequently shelled out the lateral lobes by the same route, these not uncommonly shrinking after the section and before the enucleation.

Mr. JORDAN LLOYD (Birmingham) thought that the discussion had cleared up several doubtful points. Prostates could be removed and the series of specimens shown by Mr. Freyer demonstrated this absolutely. The aim of the surgeon should be to arrive at an operation with the lowest mortality, shortest convalescence, and best after-results.

Dr. W. E. HADDEN (Portadown) and Dr. G. B. FERGUSON (Cheltenham) having made a few remarks, Mr. FREYER replied, congratulating the section on the eminently practical tone of the discussion and particularly on the excellent discourses of Professor Alexander and Professor Syms. He would like again to emphasise his belief in the existence of two separate capsules to the prostate, so graphically described by Sir Henry Thompson many years ago as the result of 70 dissections. He had no monopoly in prostatectomy, but he considered that partial removal had had its day and that his method was the best of the complete operation, as evidenced by what was removed and the entirely satisfactory after-results.

Mr. T. K. DALZIEL (Glasgow) read a paper on

Gastro-enterostomy for Simple Pyloric Obstruction.

He based his paper upon a series of 30 operations of gastro-enterostomy performed for simple pyloric obstruction causing incurable dyspepsia. In 18 cases there was well-marked inherent obstruction, while in eight others the stenosis was caused by external adhesions. He considered it more satisfactory to resort to gastro-enterostomy rather than to dilate or to divide the pylorus. He gave details of the method of operating which he pursued.

Dr. G. M. EDEBOHLS (New York) read a paper on

Renal Decapsulation versus Nephrotomy.

He advocated renal decapsulation, without incision into the renal substance, as a surgical method for the treatment of chronic Bright's disease. The kidney having been exposed its capsule was to be incised on a grooved director, and the edges of the incision being caught up by forceps the capsule was to be widely stripped from the kidney surface by a rubber-covered finger.

OBSTETRICS AND GYNÆCOLOGY.

THURSDAY, JULY 31ST.

Professor CURÀTULO (Rome) read a paper on

Photo-therapeutics as a New Therapeutical Agent in Obstetrics and Diseases of Women.

Being led by the good results obtained in general medicine with the use of photo-therapeutics Professor Curatulo had invented a speculum to facilitate their application to the uterus and vagina. Incandescent light was composed of three different kinds of rays—viz., calorific, light, and chemical or actinic rays, and each kind had its own special physiological action. The chemical rays had been proved to be very beneficial in the treatment of lupus, anæmia, and chlorosis. The speculum invented by Professor Curatulo enabled the three rays to be isolated and applied separately or all together. The speculum was of the same shape as Ferguson's and was composed of a double tube of isometrope glass. Two tubes communicated with the space left between the two walls constituting the speculum. The vulvar extremity of the speculum was closed by an indiarubber cork, pierced to allow the passage of the wires to supply the electric incandescent lamp inside the speculum. The cork was also pierced by a thermometer so that the temperature of the interior of the speculum might be easily read. As blood prevented the passage of actinic rays the cervix was made anæmic by pressing the uterine extremity of the instrument against the cervix. If it was desired to apply all three kinds of rays simultaneously water was kept running between the two tubes of the speculum by means of a douche and an electric lamp of great intensity could then be used. If the space was filled with ammonio-cupric solution the actinic rays alone would pass. If it was filled with a red solution, such as cochineal, the actinic rays were absorbed and the luminous and calorific rays acted. The speculum could be used as a hot-air douche. By moderate application of actinic rays important modifications of nutrition in cases of metritis and hypertrophy of the cervix might be obtained and they might be useful in cases of sterility due to ill-development of the uterus and cervix. It also tended to facilitate absorption in parametritis and perimetritis. The germicidal action might be of value in specific ulceration of the cervix and cancer.

Dr. G. T. HARRISON (New York) read a paper on

The Etiology, Diagnosis, and Treatment of Ectopic Gestation.

His remarks were mainly restricted to the diagnosis and treatment in the earlier months of pregnancy. Treatment was guided by the following principles: When the diagnosis was made before the death of the fœtus he advised removal of the genital sac by laparotomy as early as possible. If rupture occurred operative interference or expectant treatment would depend on the character of the phenomena. In hæmatocele the medical man should await complications. In total abortion with or without hæmatocele and retention of the dead ovum or tube treatment depended on the symptoms. If the tumour became hard and smaller per vaginam no surgical interference was indicated. If the tumour grew larger and the patient became worse an operation was indicated. Fever and suppuration demanded posterior colpotomy. As regarded diagnosis, before death of the embryo he had noticed a peculiar soft elastic feel of the embryo. If the fœtus was dead the tumour would be found to be hard and there would be discharge of dark blood per vaginam. The commonest termination of tubal pregnancy was tubal abortion—complete or incomplete—rupture being a comparatively rare event.

Professor MURDOCH CAMERON (Glasgow) thought that directly tubal gestation was diagnosed it should be operated on. He would not wait for complications. In his experience the uterine membrane was more often expelled after the operation than before. The text-book descriptions of tubal affections as being sausage-shaped were all wrong. In the large majority of hæmatoceles the embryo was dead. If it was alive the patient was very likely to die from hæmorrhage.

Dr. H. R. SPENCER (London) thought that it was very important to point out what most gynæcologists knew, but many men in general practice did not, that the majority of tubal pregnancies were unruptured. When they did rupture an immediate operation was required; when they did not no operation, as a rule, was necessary, although perhaps one might be better and convalescence more rapid. Diagnosis was often most difficult. He had lately had a case of tubal rupture seven days after the patient became pregnant. The cavity was not larger than a pea and the patient nearly bled to death. He considered that tubal colic was a very important sign. As regarded operation in the later months of pregnancy with living children, if all results were collected they would be found to be very bad. One should never wait in hopes of getting a viable child. The only case in which he did this—the child being a little

over six months—secondary rupture of the sac took place and the patient bled to death.

Professor J. W. BYERS (Belfast) thought with regard to the causation of this condition the attitude must be one of scientific scepticism. In most cases there was no previous history of tubal disease. Ovarian pregnancy was fully established, perhaps some of those cases of missed periods with a very little collapse, of which he had seen a good many, belonged to this condition. He favoured large injections of strychnine and saline solution together with local anæsthesia for the operation where there was much collapse.

Dr. A. DONALD (Manchester) said that it was very important not to expect a clear history of a missed period. If a pregnant tube was diagnosed operation was imperative. In hæmatoceles before operating it was advisable to wait for three weeks, as at the end of this time absorption often proceeded very rapidly. In hæmatocele he would operate from the vagina and in all other cases by the abdominal route. In one case he used both routes; having cut down into a placenta from the abdomen he thought it better to leave it *in situ* and then by a vaginal operation to empty the sac and to pack it. From the abdomen he saw the sac contract down on his packing and the woman made an uninterrupted recovery.

Dr. W. WALTER (Manchester) favoured the vaginal route for operation unless the patient was *in extremis*.

Mr. J. H. TARGETT (London) drew attention to the fact that in some cases there was antecedent disease of the tubes. One case he remembered in particular where the patient had had acute tuberculous peritonitis and this, together with the ascites, made the diagnosis of tubal gestation very difficult. He had also noted cases where tubal swelling was quite anterior to the uterus and consequently the diagnosis was very difficult.

Dr. C. E. PURSLOW (Birmingham) was of opinion that in diagnosis the most frequent error was to confound ordinary abortion with tubal gestation. He did not place much reliance on the discharge, having seen numbers of cases where there had been amenorrhœa for three months.

Dr. J. B. HELLIER (Leeds) gave large doses of strychnine (35 minims) in collapse and intravenous injections of saline solution, which, he thought, was a better method than the subcutaneous one. It would seem from Dr. Harrison's paper that diagnosis of tubal gestation before rupture was much more exact in America than over here, as in his experience most cases of tubal pregnancy were not diagnosed before rupture or abortion.

Dr. HARRISON replied.

Dr. R. JARDINE (Glasgow) read a paper on

The Use of Potassium Chlorate in Habitual Death of the Fœtus in the Later Months of Pregnancy.

He considered that potassium chlorate had a beneficial action on the endometrium. In these cases the placenta was always degenerated. Sir James Simpson was the first to point out the good results to be obtained from administering this drug in these cases, and Dr. Jardine having had a large experience fully agreed with him. It had been said that potassium chlorate would have an injurious effect on the blood, but he had found no such drawback in these cases and he was in the habit of giving 10 grains three times daily after meals for six months with no ill-effects. He gave details of three cases. In one case, that of a multipara with two former miscarriages at the fifth month and with no signs of syphilis, the patient came under his notice at the fifth month. He could hear the fœtal heart but noticed a large amount of liquor amnii. Potassium chlorate was given and a healthy child was born at full term with a macerated fœtus about five months old. In this case one fœtus having died he was just in time to stop the death of the other by administering potassium chlorate. In another case, a multipara who had had several miscarriages came under his care, and afterwards as long as she took potassium chlorate the children were born at full term; if she neglected to do this then a miscarriage took place. At one of her labours the breathing after delivery with forceps and flooding became very bad and she appeared to be dying. The pain in the left side was so bad that she asked to be turned on to her right. When he did this she at once recovered and he had no doubt that in moving her he had dislodged an air embolism. Lately she had refused to the take the drug because, having had such bad times with full-term children, she preferred miscarriages.

The PRESIDENT (Dr. D. L. ROBERTS) said that on Sir James Simpson's recommendation—he was always such a trustworthy observer—large numbers of practitioners had tried this treatment. Personally his results had always been unfortunate.

Mr. J. STUART NAIRNE (Glasgow) had had a large experience of this treatment and was sure that it was sound.

Dr. T. A. HELME (Manchester) had been most disappointed with his results.

Dr. SPENCER thought that in the first case mentioned the fact that one fœtus was dead was a proof that potassium chlorate in these cases was useless.

Dr. JARDINE replied.

Dr. H. O. NICHOLSON (Edinburgh) read a paper on

Puerperal Eclampsia in the Light of Thyroid Inadequacy and its Treatment by Thyroid Extract.

After referring to the function of the active thyroid in supplying a secretion which was essential to the maintenance of the metabolic cycle, the constant enlargement of this gland to meet the needs of the increased metabolism incident to pregnancy was noted. In some pregnant women the supply of iodothyrin in the tissues became gradually or suddenly insufficient for the purposes of metabolism. Then certain toxic substances entered the blood. The toxic substances produced contraction of the blood-vessels, especially of the kidney, and ultimately, the flow of blood through the kidney being prevented, suppression of urine and convulsions occurred. The toxins of eclampsia thus acted like toxic doses of digitalis and stopped their over-excretion by producing intense contraction of the renal vessels. Two main principles of treatment were clearly indicated: (1) re-adjustment of the process of metabolism to favour the complete metabolism of the nitrogenous substances; and (2) re-establishment of the secretion of urine. Thyroid extract, by its well-known influence on proteid metabolism, fulfilled the first indication admirably. The second indication was also best fulfilled by this remedy because in order to make the kidney secrete again it was necessary to relax the spasm of the renal arteries. Thyroid extract had been shown to possess a specific action in enlarging the calibre of the arteries and Dr. Nicholson had shown that when this drug was given to eclamptic patients in sufficient doses to produce symptoms of "thyroidism" the re-establishment of the secretion of urine was secured. Observations on the circulatory phenomena of normal and eclamptic pregnant women had shown that in the latter the radial arteries became contracted and the blood-pressure was raised in the pre-eclamptic state. The peripheral resistance increased steadily as convulsions became imminent. When the blood-pressure was at its highest and the arteries were contracted the secretion of urine was at its lowest point. This, among other things, supported the view that the toxins acted as powerful vaso-constrictors and more especially on the renal vessels.

The PRESIDENT thanked Dr. Nicholson for his valuable and interesting paper and he trusted that it would lead others to try the treatment recommended.

Mr. R. H. A. WHITELOCKE (Oxford) read a paper on

A Case of Intermenstrual Pain (Mittelschmerz) Cured by Two Successive Operations.

The patient came under his observation after she had been treated a long while medicinally and also by dilating the cervix and curetting. The pain was so bad that she was unable to do her work for 10 days before the period, the pain stopping 24 hours before the onset of the flow. On examination Mr. Whitelocke found an enlarged and cystic ovary and subsequently removed it. She got no better and coming under the care of Dr. Spencer he detected a small fibroid in the fundus of the uterus which was not noticed at the first operation and an enlarged ovary. This ovary Mr. Whitelocke removed—it was cystic—and the patient made a perfect recovery.

Professor BYERS thanked Mr. Whitelocke for the able and scientific way in which he had discussed this subject.

Dr. F. MCCANN (London) said that he was the practitioner mentioned in the paper. He did not regard the case as one of mittelschmerz at all since the pain lasted up till the period, whereas in this disease there was a distinct interval. He regarded the patient as somewhat neurotic. He had diagnosed fibroid and dysmenorrhœa and had dilated her. If any radical operation was necessary he thought the uterus should have been removed and the ovaries left.

Dr. SPENCER thought that the case was certainly one of mittelschmerz and that Mr. Whitelocke had performed the best operation the second time, one ovary having already been removed and the other cystic.

Mr. TARGETT thought that removal of the ovaries was quite the best treatment for these cases, especially when, too, the artificial menopause could be so well controlled by thyroid extract.

Mr. WHITELOCKE, in reply, stated that the pain did cease 24 hours before the period and therefore was a true case of mittelschmerz.

Mr. NAIRNE read a paper on

So-called Neurasthenia, Hysteria, and Abdominal Section,

and the meeting then adjourned to hear Professor W. JAPP SINCLAIR'S Address in Obstetrics, which was published in THE LANCET of August 9th, p. 341.

FRIDAY, AUGUST 1ST.

Dr. BERRY HART (Edinburgh) opened the discussion on

The Operative Treatment of Prolapsus Uteri.

He first considered the anatomy of prolapsus, showing a sagittal mesial section of an advanced case. He contrasted this with the normal relations and then went on to show that prolapsus was really a hernia of a definite part of the pelvic floor—viz., that part in front of the anterior rectal wall where the posterior vaginal wall became separated from the anterior rectal wall—and that the peritoneum was driven in. The side relations in an advanced case were not well known but there was no actual separation or tearing away from the fascia inside the obturator and levator muscles, but elongation of the broad ligaments, so that they lay almost vertically. He pointed out that in the main one had to operate in the prolapsed position and had greater difficulty in doing anything to the supporting part. He then described the operations necessary in a medium case—viz., amputation of part of the cervix, with anterior and posterior elytrorrhaphy. Ventrofixations were also considered as well as Freund's vaginal implantation of the uterus and the radical operation of vaginal and uterine extirpation of Martin of Berlin and Martin of Birmingham. A number of casts of frozen sections and drawings were shown.

Dr. G. M. EDEBOHLS (New York) noticed that all operators had now arrived at Dr. Berry Hart's conclusions. His own operation for prolapse of the second degree was curetting, amputation of the cervix, lateral colporrhaphies, and ventrofixation all at one sitting. For complete procidentia he advocated total extirpation of the vagina and uterus, having now had considerable experience in the operation—eight cases all successful. This operation was applicable to widows and to women past the menopause with the husbands' consent. It was an advantage to leave the tubes and ovaries if healthy as it left the peritoneum higher up. By this operation a solid block of tissue five inches long was made between the bladder and the rectum. He thought English operators let their patients lie a-bed too long afterwards. He allowed his patients to get up at the end of a week and do what they pleased. He drew attention to the great advantages of lateral colporrhaphies over anterior and posterior.

Dr. MACNAUGHTON-JONES (London) said that he did not like vaginal fixation. He showed two specimens of uteri from patients, aged 56 years and 74 years, upon whom he had performed hysterectomy for very severe procidentia, the last of 25 years' standing.

Mr. BOWREMAN JESSETT (London) advocated ventrofixation and repair of the pelvic floor, both to be done at the same sitting, for cases of moderate prolapse. In old women with prolapse he preferred hysterectomy.

Dr. W. J. SMYLY (Dublin) agreed with all that had been said but thought that more importance should be given to the difference between anteversion and retroversion. The latter was usually associated with prolapse and should be cured as soon as possible.

Dr. MCCANN recommended for cystocele extensive perineorrhaphy so as to extend the perineum forwards and this was best done by removing in addition to the mucous membrane the connective tissue as deep as possible.

Dr. J. INGLIS PARSONS (London) advocated injection of the broad ligaments by quinine if repair of the pelvic floor failed. He gave details of his operation and quoted the results of over 60 cases in many of which the patients had been operated on over two years, and some had since borne children. All the patients were cured, and most of them had been in a very bad state and had been operated on with no good result. He found ventrofixation failed in old women with weak abdominal walls and interfered with pregnancy in young women, whereas his operation was free from both of these defects.

Mr. E. S. BISHOP (Manchester) pointed out that whereas the first step in prolapsus was always said to be retroversion it was really relaxation of the utero-sacral ligaments, and he described the operation which he was in the habit of doing to remedy this.

Dr. J. TENNANT (Belfast) considered that a most important factor was the descent of the peritoneum forming the pouch of Douglas.

Dr. F. EDGE (Wolverhampton) insisted on the importance of the fascia. This had not been sufficiently emphasised. Ventrofixation and Alexander's operation were quite sufficient in virgins and this showed what a little part the uterus took in prolapse. In primary uterine prolapse such as occurred in virgins the fascia was not involved. After hysterectomy the proper method was to unite the various constituents of the pelvic floor in the same manner as hernia was treated. He preferred Martin of Birmingham's operation to all others; it was much easier to remove the vaginal mucous membrane from above downwards.

Dr. COMYNS BERKELEY (London), being a colleague of Dr. Inglis Parsons, had had an opportunity of seeing most of the cases mentioned in the latter's paper, both before the injection of quinine and a long while after, and he was able to state that the results of the operation had been all that Dr. Parsons claimed for it.

Dr. A. L. GALABIN (London) advocated the use of the Hodge pessary for several years after most operations for prolapsus, since this condition occurred most frequently in the working classes and was due to their occupation, which they did not change after the operation, and he thought that this accounted for most of the bad results. Where it could be obtained he thought enforced rest for many months after the operation would do instead of the Hodge pessary. The operation which he had devised for this condition and with which he got the best results was to remove all the muscular wall of the vagina and central part of the levator ani and then to suture the lateral portions of the levator ani.

Dr. BERRY HART replied.

Professor CAMERON read a paper on

The Treatment of Fibroids.

He insisted on the importance of diagnosis and stated that only a third of his fibroid cases needed operative treatment. In suitable cases he had never met with a bad result from double oöphorectomy and thought that it was an operation which was neglected and was sure it would again come into favour.

Dr. WALTER disagreed with oöphorectomy for fibroids.

Dr. GALABIN favoured hysterectomy.

Professor CAMERON replied.

Professor CURÀTULO read a paper on

The General Therapeutic Indications of the Iodo-bromo-saline Waters of Salsomaggiore (Italy).

He stated that the waters contained more iodine and bromine than any other water, five times more chloride of sodium than sea water, more lithium than the hot springs of Wheel Clifford in Cornwall, more strontium than the Dürkheim and Contrexéville springs, and what really gave the Salsomaggiore springs their supremacy over other similar waters was the large amount of bituminous substances they contained. The treatment consists of baths of natural mineral water and acqua madre, local applications of mud, irrigations, and the vaginal steam spray. Professor Porro was the first to point out the beneficial action of these waters in diseases of women and good results were generally obtained in pelvic inflammation, sub-involution, endometritis, salpingitis, retroversion with adhesions, and fibroids, the hæmorrhage in the latter often being controlled. Professor Curàtulo also described his new treatment of spraying the vagina and cervix for 20 minutes with the mineral waters by means of his steam-spray apparatus and attributed his good results to the direct stimulation of the cells and the reflex excitement of the vaso-motor nerves caused by the mineral principles of the water, to the contraction of the blood-vessels and consequent relief of congestion, and to the absorption of iodine through the vaginal mucous membrane.

Dr. MCCANN read a paper on

Vaginal Fixation.

He fully described his method of operating and the cases suitable for it. He showed how it did not interfere with subsequent pregnancy and discussed its advantages. Illustrative cases were described. He had operated on 20 cases with complete success. In no case was any elevation of the temperature noted after the operation.

Professor C. R. MARSHALL (Dundee) read a paper on the Abuse of Mercuric Chloride Solutions in Obstetric Practice.

STATE MEDICINE.

THURSDAY, JULY 31ST.

Tuberculosis and Notification.

In opening the morning's session the PRESIDENT (Dr. JAMES NIVEN, Manchester) remarked that with the information concerning tuberculosis now in their possession he could confidently say that there was no infectious disease about which they knew so much, for in no other infectious disease did they either know so exactly the mode of infection or the precise measures necessary for its prevention. And this was fortunate, insomuch as the prevention of tuberculosis was infinitely more important than the prevention of any other of the infectious diseases, the truth of this statement being obvious when he reminded the members of the section that something like one-seventh of the human race died as the result of tuberculous and, therefore, preventable infection. Tuberculosis was in truth a preventable disease and the administrative measures required for its prevention, although sufficiently simple in their general features, were more complicated in detail than those employed in dealing with ordinary fevers, the section therefore was fortunate in being able to listen first-hand to the views of those two gentlemen who were the chief apostles of the movement for the prevention of the disease.

By what General Scheme of Action, including Administrative Measures, can the Prevention of Tuberculosis be most Efficiently Advanced?

Dr. J. ROBERTSON (Sheffield), before discussing the direct and indirect measures of administration which the question involved, drew attention to the fact that no city in the empire had devoted so much attention to the subject of the prevention of the spread of tuberculosis as the city of Manchester, which city might also claim the honour of having been the first to take the field in the active campaign against this disease. Among the direct measures employed in the prevention of tuberculosis he drew attention to the necessity for the sanitary authority to know who were infectious and therefore likely to spread the disease. In Sheffield they had had voluntary notification since 1899 and in many other towns similar measures had been adopted. Personally, he considered compulsory notification was both desirable and necessary, not by including tuberculosis in the list of diseases which might be notified under the Infectious Diseases Notification Act, 1889, but by special clauses dealing with this disease alone, for it would be a monstrous injustice if, for example, a patient suffering from tuberculosis should be liable for a prosecution for "exposing himself in a public place," as would a small-pox patient in similar circumstances. In the course of his address Dr. Robertson observed that if compulsory notification was wanted powers must at the same time be obtained authorising them to require that infectious matter from a consumptive person should be properly disinfected before being disposed of; in other words, the disinfection of sputum should be made obligatory on the person suffering or the person in attendance on the patient. He strongly urged that sanitary authorities should have power to establish places for the open-air treatment of phthisis and other tuberculous diseases. As another administrative procedure, he drew attention to the provision of isolation homes for cases that were a source of danger to their friends and to the general public, remarking that these homes would be useful in addition to the consumptive wards of workhouse infirmaries. With regard to indirect measures, he put forward the better lighting and ventilation of houses, factories, and workshops, better conditions as to air space and cleanliness round dwellings, better food-supplies, and better conditions of labour.

Dr. ARTHUR NEWSHOLME (Brighton) continued the discussion and described in some detail the preventive measures which had been adopted at Brighton under the following headings: Diagnosis, Notification, Disinfection, Prevention of Infection, Investigation of Sources of Infection, Removal of Insanitary Home or Work Conditions, Removal of Patients to Sanatoriums, &c., After-treatment of Convalescents, and Removal of Food Infection. He said that the health authorities examined suspected sputa gratuitously for the medical practitioners, with the result that in 1901 125 such specimens were examined. With regard to notification, a fee of 2*s.* 6*d.* or 1*s.* was paid for each case notified in private or public practice, the total number of cases notified in 1899 amounting to 113, whilst a fee of 6*d.* became due to the relieving officers for each intimation of the removal of a parochial phthisical patient to the workhouse infirmary. Since 1893 it had been the routine practice in Brighton to disinfect the bedding and bedrooms of patients who had died from phthisis: spitting was forbidden in or on the corporation tram-cars: cards, five inches by seven inches, containing a notice forbidding spitting except into proper receptacles, and stating that indoor expectoration on floors was the main source of spread of consumption, were distributed to workshops, public-houses, theatres, &c., to be affixed to the wall in some conspicuous position. Enamelled metal plates with the same notice were now being prepared to replace these cards. Every notified patient received a card embodying simple precautions of a non-alarmist character; the poorer patients were supplied with sputum bottles and Japanese handkerchiefs free of charge. In Brighton the local branch of the Charity Organisation Society now paid for two beds in an institution for the open-air treatment of phthisis; the town council of Brighton, in addition, paying for three patients. This Dr. Newsholme considered would enable Brighton to keep 12 patients per annum at a cost of about £470. They had also commenced the treatment of patients in small isolation pavilions attached to the local fever hospital, and he expressed it as his conviction that the treatment of such cases in fever hospitals during the inter-epidemic periods would, in the near future, form an important branch of public health work.

Dr. JAMES BEATTY (Manchester) next described the measures that had been adopted in Manchester for the investigation and control of tuberculous cases. He explained the method of notification which was in vogue, emphasising the fact that although the notification of this disease was practically a voluntary one, the health authorities of Manchester had been enabled during the past year to obtain information about a large number of cases. As soon as a case was notified it was visited by the assistant medical officers of health and every endeavour was made to obtain full data as to the causation and course of the disease, especially with regard to the source of contagion and possible relationship to the conditions of work. Instructions were given to the patients as to the means to be adopted to render themselves less liable to serve as centres of infection and therefore a source of danger to their fellows. In certain cases the patients were transferred to healthier surroundings than obtained in their own homes; the otherwise empty small-pox hospital had been utilised for the reception of some of these patients with excellent results, in spite of its bad situation, but the space at the disposal of the sanitary authorities of Manchester was quite inadequate to accommodate the entire number. A thorough system of disinfection was also in vogue; in some cases complete disinfection of the rooms occupied by tuberculous patients was carried out by the sanitary authorities, whilst in suitable cases the tenants were encouraged to employ a modified disinfection which consisted of lime-washing the ceilings, &c., cleaning the walls, and scrubbing the floors with soap-and-water.

Dr. C. R. DRYSDALE (London) inquired as to the number of deaths per annum in Manchester from phthisis.

In reply, the PRESIDENT stated that about 1200 deaths from tuberculosis were returned for the past year, but the death-rate for tuberculosis had steadily diminished for the past 30 years. The diminution was perhaps not rapid, but at the same time the improvement in this respect was really greater then might at first be apparent as an entirely new generation was now being dealt with and the population itself might justly be regarded as offering greater facilities at the present time for the spread of tuberculosis than it did a generation ago.

Mr. W. HODGSON (Crewe) referred to the recent conference of the representatives of all the sanitary authorities for the county of Cheshire who were endeavouring to obtain the permission of the Local Government Board for the erection of large sanatoriums, in spite of the fact that tuberculosis with

them was not a compulsorily notifiable disease. He spoke of the difficulties which surrounded the attempts of those responsible for the public health to secure the sympathy and cooperation of public bodies in such measures.

Dr. RANSOME (Bournemouth) pointed out the fact, which he feared was too much overlooked, that tuberculous infection was much more largely conditional on individual resistance than the infection of many other diseases, and it no doubt frequently happened that an individual might harbour virulent tubercle bacilli and yet, provided he himself was strong and healthy and lived in healthy surroundings, the chances were largely in favour of that individual not contracting the disease. In support of his contention that the tuberculous infection was conditional upon the receptivity of the body and to an almost equal extent on the environment of that body Dr. Ransome mentioned some experiments in which a sample of tuberculous sputum exposed to sunshine and air in his own house had entirely lost its virulence in the course of a few days, whilst a similar sample of the same sputum exposed in the room of one of the lower-class houses in Manchester contained living virulent bacilli at the end of three weeks. He would like to urge upon the medical officers of health that their great duty with respect to the prevention of tuberculosis was to improve the conditions of life—and especially the conditions of the dwellings—of the poor. This was the true English method of fighting the disease, in contra-distinction to which notification, whether partially or absolutely compulsory, and hospital treatment, might be termed the continental method. Whilst he looked for the best results from a happy combination of the two, he once more urged the extreme importance of the improvement of the home surroundings of the indigent tuberculous population.

Dr. A. D. WEBSTER (Edinburgh) expressed his opinion that they were going too far in attempting to place tuberculosis in the same category as scarlet fever and small-pox, for that was undoubtedly the tendency of this plea for notification, and he thought that more good would be done by not attempting to make notification compulsory. The numerous cases of local tuberculosis which came under the observation of the general practitioner and the good results which usually followed upon treatment, pointed to the curability of the disease, and he would urge the injustice done them by labeling such patients as contagious.

Dr. DRYSDALE feared that improvement would not follow any measures, such as notification or treatment in sanatoriums, until the condition of the people, and especially the poor people, was improved. Phthisis and poverty went hand in hand, and until overcrowding had become a thing of the past phthisis could never be banished. At the same time he believed that if such measures as were in vogue in Manchester and Brighton were more generally adopted, the amount of consumption existent in England would be materially diminished.

Mr. J. F. HALL-EDWARDS (Birmingham) believed that the establishment of sanatoriums was the best means of stamping out phthisis; at present, however, they appeared to be fostering consumption as a hothouse plant rather than treating it as a scourge. He was strongly opposed to methods which entailed the treatment of tuberculous patients for a limited time in sanatoriums and which then simply returned them to that identical home environment which was in so large a measure responsible for the disease. From his knowledge and experience of South Africa he was convinced that there was the ideal place for the erection of sanatoriums, which should take the form of working colonies for consumptive people rather than sanatoriums such as they erected in England; there such patients might live practically entirely in the open air and at the same time contribute their quota to the resources of the colony. He would further suggest that the Government might reasonably be requested to allow the use of some one or two transports for the purpose of conveying these patients to South Africa.

Dr. J. LLOYD ROBERTS (Colwyn Bay) considered that treatment in sanatoriums was the best way of dealing with the tuberculosis question, although he realised the force of Dr. Ransome's arguments for general improvement of the home surroundings of the people. Consumption might truly be said to originate in the dwellings of the poor, and therefore the better housing of the working classes was a most important preventive measure.

Dr. J. M. RHODES (Manchester) also remarked on the intimate connexion existing between the housing problem and the prevention of tuberculosis.

Dr. ROBERTSON then proposed the following motion:—

That this section of the British Medical Association considers that the time has now come for the Local Government Board to grant more extended powers for dealing with cases of tuberculosis to such local authorities as are able to show that they are in a position to undertake the necessary work.

This motion was seconded by Dr. NEWSHOLME and unanimously adopted.

The Relation of Poverty to Disease.

Mr. Alderman M'DOUGALL, deputy chairman of the sanitary committee of the Manchester corporation and a member of the Manchester board of guardians, read a paper embodying the results of his observations on this subject, with especial reference to the township of Manchester. For the purpose of comparison he divided Manchester into three districts—viz., Manchester township, North Manchester, and South Manchester. The inter-relationship of these three districts with respect to poverty had been arrived at by comparing the death-rates of persons from each district as obtained from the workhouses and hospitals and other charitable institutions. These figures showed that the township contained a much larger proportion of persons in conditions of poverty than either of the other two districts, whilst South Manchester had a much greater proportion than North Manchester. By means of an excellent series of diagrams he showed that the higher death-rate always present in the more impoverished districts indicated that poverty tended to the increase of disease, and accelerated death. Other influences affected the death-rate in each district, but when these were taken into account there remained a very large amount of injury to life that could only be the result of the active effects of poverty. After an extended examination of the statistics, Mr. M'Dougall said that it was much more easy to point out dangers and injuries to health than to suggest measures of protection and remedy; the causes of poverty were so various and much of the suffering and disablement came to many who were not themselves transgressors, and, further, such an examination as he had undertaken quite failed to distinguish between poverty due to inadequate means and poverty arising from wastefulness. Intemperance, idleness, carelessness, and ignorance brought poverty and distress to children and dependents. Accident and physical incapacity also impoverished some who otherwise would be self-supporting. Changes in trade, national calamities, and unfavourable seasons removed opportunities of earning from willing workers. The economic problems of wealth and poverty were always present. Something, however, might be done in mitigation of the more visible effects of ill-health. Young children formed the class of those who endured poverty whose condition was most susceptible of mitigation. Improvement of condition would be certain to result to a large number of children if mothers became more capable of making the best of what food could be obtained. He believed that it would be of immense service to public health if every girl attending elementary schools had as part of her education during the last year of her school life to learn practical lessons in cooking simple foods and the details of cleanly and economical use of the fireplace and household utensils. At the same time the methods of cleansing the house could easily be taught. It would be a profitable expenditure of educational finance in State-aided schools that food materials should be purchased of sufficient quantity to give one good meal in the day to the most needy of the scholars, this to be cooked by the elder girls under efficient supervision. Such training of girls before leaving school would also have a good effect in their homes whilst they were still scholars. The periodical taking of the weight and height of scholars would be useful as pointing out deficiency of food or of other necessaries. To prevent much of the worst kind of poverty among men and women during working age, earnest efforts were required to prevent intemperance by the removal of temptations and inducements to drink, and also to foster a strong public opinion against gambling. There should be appreciative support of the authorities in their attempt to improve the sanitary condition of dwelling-houses and to remove the causes of overcrowding, as from the figures which he had given and from statutory enactments it was clearly their duty to make special efforts in connexion with such conditions in the poorest parts of our large towns. The encouragement of cheap transit to the suburbs and the provision of open spaces were in this connexion of much importance. He believed the day would come when, in addition

to savings-banks, they would have banks granting small loans to workers on a rate of interest not much beyond that payable on deposits; the loans to be granted on approved personal security of friends and repayable in weekly instalments, a system already in practice in Manchester and yielding most excellent results. For aged persons of 65 years and upwards in necessitous circumstances he was convinced that much could be done by existing boards of guardians undertaking to deal with applications for aid from persons who have attained 65 years of age, quite apart from the applications of persons under that age, and he would recommend that boards of guardians should appoint special committees to consider all requests for aid from aged persons; such committee could discriminate and make grants suitable to the condition of the applicants. Some would be selected as fit for grants of weekly sums, say of 5s., in orders extending over six months, and renewable if satisfactory; others not in a condition to expend money or to attend to their own personal needs might be selected for maintenance in homes apart from the workhouses; others suffering from ailments needing hospital treatment could be received into the workhouse hospitals, and when able to be out of bed should have the use of special day rooms. The remainder should be dealt with as at present in the workhouses. The first three classes would undoubtedly involve a higher expenditure by the ratepayers than the present system, for many persons who did not now apply to the guardians would most gladly accept aid in one of the three forms he had mentioned. That being so he considered that it would be only right for the State to bear part of the cost. The select committee of which Mr. Chaplin, then President of the Local Government Board, was chairman, reported in 1899 in favour of contributions to Poor-law unions which might appoint special committees empowered to make weekly grants to aged persons, such contributions not to exceed one-half of the cost of the grants. It was obvious that this recommendation for a modified form of provision for necessitous old age only applied directly to a limited number of persons, but he was of opinion that if it were adopted it would have a beneficial effect on poor persons at ages less advanced.

Mr. B. SEEBOHM ROWNTREE (York) followed Alderman M'Dougall with a paper on the same subject, in which he detailed his investigations in the city of York, which was taken as a fairly typical provincial town. The immediate purpose of this inquiry was to throw some light on the questions, What proportion of our town populations are living in poverty? What are the chief immediate causes of that poverty? What are the effects of poverty on health? In order to obtain accurate information the investigation included a house-to-house visitation of every working-class house in York. By this means much detail was obtained in each case regarding the number and ages of the occupants, the number and occupation of the wage-earners, and the accommodation and rent of the house, together with certain data as to food, &c. Furnished with this information and with knowledge obtained through other channels Mr. Rowntree was able to make a fairly accurate estimate of the earnings of every working-class family in York. In the first place, it was necessary to determine what constituted poverty, and for the purposes of this investigation he had taken as his working basis "the lack of essentials for merely physical efficiency," that is, such quantity of food as would be just sufficient to enable an adult to do moderate work, together with appropriate allowance for rent and clothing. It would be noted that in this estimate he allowed for no beer, no tobacco, no relaxation, but had, in fact, only taken into account just so much nourishment as was absolutely necessary to provide the requisite number of calories. In analysing the data he had obtained he came to the conclusion that a family of ordinary size, consisting of wage-earner, wife, and two or three children, necessitated the expenditure of at least 21s. per week to maintain simply and barely physical efficiency. The results obtained were very analogous to those recorded by Mr. Charles Booth, who had stated that fully 30 per cent. of the people in London were living in poverty, and this figure might be accepted as an under-estimate, rather than an over-estimate, of the poverty in York. If it was recollected that at the last census 77 per cent. of the total population of England and Wales was returned as urban and only 23 per cent. as rural, the seriousness of the fact that more than a quarter of the town population was living below the poverty line would be at once realised. The answer to the second question that he had set himself, What are the chief immediate causes of poverty? might be briefly summarised by saying that no less than 51·96 per cent. of the cases of poverty were due to low wages, a startling commentary on the prevalence of unskilled labour; the next chief cause, which was responsible for 22·16 per cent., was excessive size of family. The death of the chief wage-earner was responsible for the poverty of 15·63 per cent. of the cases; in 5·11 per cent. poverty was directly due to the illness or old age of the bread-winner; whilst in only 2·83 per cent. was it due to irregularity of work and in 2·31 per cent. to total loss of work. Mr. Rowntree developed the third part of his thesis concerning the effects of poverty on health by analysing the result of the physical examination of a large number of school-children (nearly 2000) and by discussing the figures obtained from the local recruiting stations. The children living in poverty showed a marked contrast to those placed in happier circumstances with regard to height and weight: at the age of 14 years the boys showed a deficiency of some three inches as compared with the average normal standard and some nine or 10 pounds in weight, results undoubtedly due to underfeeding.

On the motion of the PRESIDENT, a hearty vote of thanks was accorded to Mr. Alderman M'Dougall and Mr. Rowntree for their papers.

In the discussion which followed Dr. DRYSDALE argued that where there was a low birth-rate there would be prosperity amongst the people, for, he contended, the birth-rate regulated the death-rate; where there was a high birth-rate there was always a high death-rate, and this could easily be proved on figures obtained from any town one liked to mention. Dr. Drysdale concluded from this that it was impossible to ameliorate the condition of the working classes so long as the birth-rate was so high.

Dr. RHODES controverted Dr. Drysdale's argument, stating that it was unsound, or, if true, Ireland, with its low death-rate, ought to be an extremely prosperous country. The connexion between pauperism and disease was extremely important, and he was glad to know that it was being made the subject of exact scientific inquiry, that it was no longer considered sufficient to take these two conditions as the act of God, but that workers were endeavouring to find the causes, to know what they were, and how they arose. As an American writer had said, "To cure was the voice of the past—to prevent, the Divine wisdom of to-day." Some did not realise the enormous part which hospitals played in the amelioration of poverty and disease. There were to-day in the London workhouse hospitals about as many deaths as in all the voluntary hospitals of England and Wales put together. This showed the awful mass of misery and poverty in this country. At the same time he did not agree that there was need to be despondent. There was an idea that our age had been productive of new evils; he thought rather that what were really new were the intellect that discerned and the humanity that remedied the evils. With regard to the conditions of the people, he thought that overcrowding and bad atmosphere produced depression, and this produced a craving for drink, and thus they got disease. He believed that a vast amount of misery was due to the vagrant class. They played a prominent part in spreading disease, and he would like to see a Royal Commission appointed to inquire into this class of poverty. He commended the suggestion of Mr. Alderman M'Dougall in regard to loans, which he thought a good one. He believed that underfeeding played an important part in the production of disease. Dr. Rhodes also believed that ladies by buying goods produced by "sweated" labour helped to produce poverty. Thousands and thousands of shirts were made to-day at 9d. a dozen. He thought that they should have to go in for women's trade-unions. The number of unskilled labourers and workmen, he added, was enormous. The unskilled man was continually put out of work by machinery; he instanced the navvy and the road-sweeper. Dr. Rhodes, in concluding, advocated more education and the teaching of sanitation, producing more skilled workmen, and hygienic conditions. By this means, he believed, they would see in a few years an enormous reduction in the amount of disease and of poverty.

PSYCHOLOGICAL MEDICINE.

WEDNESDAY, JULY 31ST (*continued*).

Dr. C. HUBERT BOND (London County Asylum, Bexley) read part of a paper dealing with the

Hospital Treatment of Patients at the Bexley Heath Asylum, including plans and descriptions of villas used for

convalescing and quiet chronic cases. The system of nursing was like that in the medical wards of hospitals. Plans of the villas for the housing of chronic quiet patients and of the gardens were shown as well as the charts used for the daily records of the condition of recently admitted patients while under observation in the special hospital wards of the asylum. In the discussion which followed,

Dr. J. RUTHERFORD (Dumfries) remarked that the villa system of housing convalescent and quiet chronic cases of insanity was good and that accidents were few.

Dr. ROBERT JONES (London County Asylum, Claybury) spoke of the usefulness of charts showing the nightly hours of sleep for each patient during six weeks after admission and stated that improvement often occurred as insomnia grew less.

Mr. G. W. MOULD, the President (Cheadle), said that the system of housing patients in detached blocks or villas had been employed by him at the Cheadle Royal Asylum during the previous 25 years and that nearly two-thirds of all the patients were so housed with beneficial results.

THURSDAY, AUGUST 1ST.

Professor CLIFFORD ALLBUTT (Cambridge University) opened a discussion on the

Relation of Functional Neuroses (Hysteria, Neurasthenia, Hypochondriasis, &c.) to Insanity.

Diagrammatically they might conceive of the nervous system as a vertical pile of centres, the lowermost of which presided over the earliest of the functions, each higher centre in its turn being occupied with functions later and later in the order of development. Not only so, but each later centre was not only attached directly to its predecessor but was coördinated also with all its predecessors so that the pile became a system of mutual interdependence. Thus every later centre modified, or in other words controlled or inhibited, not only the one immediately below it but also each and all the earlier centres, certain cardinal inhibitions being provided for by special short circuits. Thus, for example, sphincters became inhibited by higher motor centres and these in their turn by centres of still higher levels. But a nervous centre was not a mere change-house; it was also an accumulator of energy, whereby it was prepared not only for mean demand but also for extremes of effort or rest. It was not only a fly-wheel, which did not enlarge as the output of its engine increased, but rather like a bank which, as the output of the body increased, became itself enriched for direct expenditure, mutual reinforcement, and inhibition. In capacity of enrichment by way of expenditure individuals differed widely; in some an excessive run might strain the central resources so far that even the needs of ordinary functions were met with difficulty. In one man a certain measure of work not only achieved the immediate end but also enriched his reserve of energy; in another, if it achieved the immediate end, it fell short of addition to the reserve; in a third the end was achieved at the cost of depleting the reserve; in the fourth even the immediate end was not attained and the reserve was not only exhausted but its elasticity was so impaired that for some time to come it was unable to keep up with current work. The neurasthenic had never much reserve for time of stress; he needed inordinate time for repair and was apt to be exhausted beyond the possibility of full repair. In this lowering of nervous potential not only did output soon run down but inhibition was slackened, so that energy was prematurely set free in what they called "irritable weakness." All the functions seemed to be upon the hair-trigger. This, however, was insanity; it was not perversion but poverty. In an insane person sleep restored the manifestations of a distorted mind; by sleep and food neurasthenia was remediable. Hysteria, on the other hand, was not the snapping-off of inhibition at half-cock, but the interference of inhibition out of season. It consisted in intrusive suggestion; the patient could not take the break off; so it was often remediable by counteracting suggestions of disciplinary exercises, neither of which were of much service in neurasthenia. In hysteria, then, certain controls were in relative excess—the patient was "possessed." The neurasthenic expended his talent, the hysteric wrapped it in a napkin. Hypochondriasis was neither neurasthenia nor insanity, though in its fixed idea it was nearer to it than either. In practice, however, the line was not crossed so often as the student might expect. The neurasthenic sought each new physician with fresh prospects of relief; the hypochondriac sought him only to consume another man's time and sympathy upon the altar of himself. The morbid states and processes, to which they gave names such as these, were of course somewhat arbitrary conceptions at best; no disease was separated by a definite line from another. In neurotic persons and families the distinctions between the disorders they had mentioned and insanity melted at their edges; or, again, any two or all three of them might conceivably occupy the same individual system, and a thread of insanity might also be woven into the same fabric; a discriminating diagnosis of so complicated a condition might be difficult or impossible. More frequently, however, the difficulty was rather one of a more intimate diagnosis; confusion generally depended not upon identity but upon a similarity between two or more of these maladies in certain phases of their periods. For instance, the obsessions of neurasthenia, though usually different from those of insanity, might at times be hard to distinguish and diagnosis could only be made by analysis of all the features past and present. An insanity, again, might be regarded as the issue of a previous neurasthenia, whereas the disorder had been an insanity from the beginning. Occasionally the discrimination of neurasthenia from certain stages of melancholia, of delusional insanity, of general paralysis, of the malaise of some visceral disease, or from the sequel of some infection might be difficult to establish. Confusion was often made worse by the habit of taking names in their mere etymological sense, forgetting that as their clinical conceptions became more definite these names acquired more complex derivative meanings. So they were apt to apply the name "neurasthenia" to any sort of weakness in which nerves were concerned; and in what weakness were the nerves not concerned? For instance, the so-called neurasthenia of high arterial pressure was not neurasthenia at all, it might be melancholia or some intoxication; nor was the state of listlessness and misery which followed influenza neurasthenia—it was influenza still; the dizziness and fretfulness of atonic dyspepsia were attended with nervous debility, but they did not make neurasthenia. The initial stages of delusional insanity in a person of a certain temperament might be very difficult to distinguish from neurasthenia; but a temporary similarity was not identity. In a particular case, again, the speaker found himself unable for a couple of years to form a decided opinion between general paralysis and neurasthenia, the former diagnosis proving to be the true one. Certain curious mental and nervous disorders incident to syphilis might resemble closely, but were not, neurasthenia. For the most part it was wrong to say that neurasthenia "drifted into" this, that, or the other morbid process; neurasthenia was not a general quality common to many diseases, but a particular process having its own causes and its own events. The speaker referred to two cases diagnosed as neurasthenia in which necropsy revealed a cerebral tumour and a cerebral abscess respectively, both local diseases being evidently of a great many years' standing. Loss of memory in hysteria was apt to occur in gaps with clean-cut edges; in neurasthenia and insanity it was rather a general loss of tenacity. Depression of spirits, when primary and persistent, suggested melancholia or hypochondriasis rather than neurasthenia or hysteria. The sadness of neurasthenia was the result of disappointment; in hysteria it was a reaction from excitement. Self-seclusion was the note, not of neurasthenia or hysteria, but of melancholia or insanity of suspicion. In insanity alteration of character, often seen first in letter-writing, might put them on the right track. The insane person was unaware of this disease or had but occasional glimpses of it, which was anything but the case in neurasthenia and hysteria; the hypochondriac, however, was prone to hug a delusion such as that of a snake or earwig in his body; he could not be convinced even by the demonstration of his own senses, and from this to delusional insanity was no far cry. Of late years he had formed the opinion that neurasthenia was apt to follow the operations of surgery—sometimes even the smaller operations—if done under an anæsthetic. The surgeon, satisfied with the local results of his operation, was apt to lose sight of this result. He believed it to be genuine neurasthenia and allied to that which followed some railway accidents. They might inquire if this event had any affinity with post-operative insanity.

In the discussion which followed the above,

Dr. D. YELLOWLEES (Glasgow) said that he agreed as to the importance of distinguishing neurasthenia, hysteria, and hypochondriasis from each other and from insanity. He did

not think, however, that "imperfect inhibition" explained all the phenomena of neurasthenia, but agreed that it was necessary to distinguish neurasthenia from melancholia, as the lines of treatment necessary for these two affections were quite different. Seclusion and rest benefited neurasthenia but aggravated melancholia by favouring concentration of the patient's thoughts on himself. He thought that in cases of post-operative insanity there was an original underlying predisposition to mental breakdown and that the operation was only the exciting cause.

Mr. C. S. MORRISON (Hereford) said that post-operative insanity, in his experience, was invariably marked by acute tendencies to suicide. In a case of this kind under his care treatment with warm baths, ample feeding, and occasional doses of bromide and caffein produced an improvement of the physical and mental condition, while the impulse to self-destruction grew less and self-control became greater. Nevertheless, a tendency to melancholia persisted and the prognosis was uncertain.

Dr. FLETCHER BEACH (London) was of opinion that hereditary predisposition to insanity was a very important factor and that when it was present the symptoms of neurasthenia or hysteria which a patient exhibited passed eventually into actual insanity. Many cases of neurasthenia recently observed by him had symptoms of dyspepsia and when the latter condition improved under proper treatment the neurasthenic condition also passed away, apparently because the neurasthenia was in such cases of toxic origin.

Dr. SEYMOUR TUKE (London) emphasised the fact that in neurasthenia the effect of sleep and rest was marked as regards the benefit obtained, but the good effect was less in cases of insanity proper. He agreed that the hypochondriac was nearer to the boundaries of insanity than the neurastheniac and thought that the treatment of many cases of hypochondriasis was a most dangerous thing to be undertaken by neurologists, as such patients not infrequently attempted to commit suicide when affected with delusions of bodily disease.

Dr. LLOYD ANDRIEZEN (London) stated that in the commonest type of neurasthenia, the cerebral, the lesion was a chronic nutritional debility of the cortical nerve-cells in general, usually of congenital origin and life-long duration. It was manifested by states of cerebral fatigue readily induced and of undue persistence after ordinary work. Cephalalgia and cephalic and other paræsthesiæ were common. Concentrated application and attention were difficult. It was different from ephemeral states of fatigue which in normal persons passed away with ordinary rest and sleep. True neurasthenia did not present the characteristic depression of melancholia, the exaltation of mania or of early paresis, the tendency to delusions of hypochondriasis and paranoia, or the intellectual enfeeblement of dementia præcox. While the neurastheniac might have fear of going mad he seldom or never developed madness. Hypochondriasis and hysteria major, on the other hand, came nearer to the bounds of insanity and, in particular, to a group of the insanities which he had elsewhere described as "paraphrenia." He alluded to a class of cases met with in practice but never in asylums and marked by simple depression of spirits, occurring periodically or at regular intervals, and continuing to do so throughout life without passing into melancholia proper or other forms of insanity. One such case was cited where this was noted by him for 10 years in the case of a middle-aged man who confessed that he had suffered from such attacks since youth, and Lange of Copenhagen had also recognised and described such cases. He referred to the diagnostic features separating neurasthenia from early general paralysis and pointed out that the neurastheniac, as distinct from the early paralytic, did not develop signs of intellectual and moral degeneration.

Sir JOHN SIBBALD (Edinburgh) regarded the subject of the relation of neurasthenia to the other neuroses and to insanity as of importance and felt it necessary to differentiate neurasthenia, which was a disease running a characteristic course, from neurasthenic conditions and from incipient insanity.

Dr. HARRY CORNER (London) regarded neurasthenia as a disorder of the lowest psychical level and hysteria and hypochondriasis as affections of the higher psychical levels. This was borne out by the frequency of visceral and respiratory disturbances of a nervous character in neurasthenia, the respiratory disturbance taking the form of "air-hunger" and almost of asthma. Cardiac and circulatory disturbances and gastric dyspepsia with atony of the stomach and loss of appetite were also frequent in neurasthenia, while the presence of renal disturbance was shown by the passage of large quantities of pale urine. The disturbances of hysteria lay in the higher mental spheres as shown by the emotional disturbances and the convulsions present. In hypochondriasis delusions referring to visceral organs were developed even in the absence of visceral disease, while visual and auditory disturbances were common.

Dr. BEDFORD PIERCE (York) asked whether Professor Allbutt would include under neurasthenia cases due to toxæmia. He questioned whether the distinction between neurasthenia and insanity could be so clearly drawn as Professor Allbutt had done. He remembered cases of insanity which at one stage presented many symptoms of neurasthenia.

Dr. ALEXANDER BRUCE (Edinburgh) agreed with the definition of "neurasthenia" given by Professor Allbutt, but wished to know whether there were not cases of partial or localised neurasthenia of the different viscera due to exhaustion of their nervous mechanisms.

Dr. A. T. SCHOFIELD (London) proposed the following definitions—viz., that neurasthenia was a general exhaustion of the nervous system preceded by a stage of irritation; that hysteria was an affection of the subconscious mind producing results entirely apart from the will and consciousness of the patient; that insanity was a disease of the conscious mind; and that hypochondriasis occupied a borderland between hysteria and insanity, being partly a disease of the subconscious mind and partly of the conscious mind.

Professor ALLBUTT then briefly replied, dwelling mainly on the distinctness of neurasthenia from insanity and referring to the diagnosis between neurasthenia, melancholia, and early general paralysis.

Dr. ROBERT JONES read a paper on

Apprehensiveness, Stupor, and Katatonia.

In no form of mental disease, said he, had greater difficulty been experienced as to the exact meaning of a term than in regard to the word "katatonia" which was first used by Kahlbaum in 1874 to designate a particular variety of insanity. Continental authorities generally accepted Kahlbaum's views regarding the affection he described and recognised katatonia as a definite disease with characteristic symptoms running a special course. Dr. Jones, however, thought that katatonia was not a separate variety of insanity but was a symptom which occurred in the course of the cyclic forms of insanity. It was rare after 30 years of age and was most frequent at about 20 years of age. It was more often met with among private than pauper patients and occurred more often in the brain-worker than in the labouring man. The essential feature was a tendency to the recurrence or repetition of motor and mental impulses followed by negativism—i.e., by a condition of passive resistance to every movement. It followed acute mania, melancholia, epilepsy, or formed part of a cycle in periodic insanity. The earliest stages of the affection were marked by irritability, anxiety, headache, and painful feelings. Then followed a condition of marked apprehensiveness and painful mental prostration. Finally, there developed a condition of muscular tonus with disinclination or inability for voluntary movement, the attitude being rigid and statuesque, and the facial expression vacant and mask-like. The patient in this condition took no notice of his surroundings, his saliva dribbled down his chin, he refused to take food, and his urine was either retained or passed involuntarily. Speech was absent and memory though present was indistinct and untrustworthy. Occasionally meaningless words were uttered in parrot-like fashion (echolalia) or meaningless gestures were made. When the resistive stage subsided there succeeded a cataleptoid condition with automatic movements of swaying, singing, or unintelligible utterances (verbigeration). The radial tension as measured by the sphygmograph was low and the circulation was feeble during the early and intermediate stages. Occasionally outbreaks of violence occurred which were of momentary duration, after which the patient subsided into a stuporous or cataleptic condition. Occasionally self-mutilation of the genitals was observed, probably as the result of impulses arising from delusions. Excitement, however, was rare in katatonia. As regards the terminations of the disease, it was found that the greater number of katatonic cases became chronic and passed into mild dementia of an inert and sluggish type. Youth did not render prognosis more favourable, as many young persons passed into incurable

dementia. Masturbation aggravated the malady. Overstrain and anxious responsibility rather than simple overwork were the exciting causes of this form of mental breakdown in adolescents and young adults of both sexes. The pathological findings in post-mortem investigations were not sufficiently advanced or complete to enable them to correlate the symptoms during life with the lesions observed.

The PRESIDENT made a few appreciative remarks on the clinical interest of the paper contributed by Dr. Jones and regretted that owing to want of time further discussion on it was impossible.

OPHTHALMOLOGY.

THURSDAY, JULY 31ST.

Dr. ARTHUR W. SANDFORD (Cork) opened a discussion on

The Treatment of Sclero-keratitis.

He believed this affection pure and simple to be an extremely rare one and that, with few exceptions, it was a local manifestation of acute rheumatism or of some more or less modified form of tuberculous infiltration and that it did not differ essentially from similar affection of other fibrous capsules, as of joints and testes; its importance in the eye consisted in the extension to episclera, iris, uveal tract, &c., whereby vision might be seriously diminished. As a rule these complications had set in before treatment was applied for, which complicated matters. A large proportion of cases occurred in adolescence in association with other scrofulous evidences and in females with menstrual irregularities; in adults it was rarely disassociated from constitutional rheumatism or gout. In those acute cases which were not tuberculous in origin he had found useful hypodermic injections of pilocarpine and dosing with salicylate of soda or aspirin, the eye being kept quite at rest, warm, and dry. Iritic complications needed atropine but he felt this was to be avoided as much as possible. In scrofulous cases rest and warmth to the eye, doses of iodide of potassium with iodide of iron and tri-iodide of caffein with a generous dietary, or the use of bichloride of mercury in small doses were useful even apart from specific taint. His experience of subconjunctival injections was not favourable; in some cases the reaction was severe and probably hurtful. On subsidence of the affection the thinned sclera and opaque cornea had to be considered; for this long use of weak myotics and weak mercurial ointments and massage appeared to promote tissue change. The results he felt were not thoroughly satisfactory since the affection was tedious and had a marked tendency to recur.

Dr. E. E. MADDOX (Bournemouth) said that the condition and its treatment were difficult and obscure; cases sometimes cleared up after treatment had been dropped. He thought that peritomy was of most general service, whilst yellow ointments and iodide of sodium lotions were sometimes useful. Dry heat often gave good results and in this connexion he showed a mode of its application which he thought was more convenient than by the usual "muff-warmer." His appliance consisted of a thin flannel disc in which was threaded a helical of fine tinned iron wire; the two ends of this were connected with a suitable electric current; it was light, small, cheap, could be placed within the usual dressings, and the heat could be regulated to a nicety by control of the electric current.

Dr. HILL GRIFFITH (Manchester) divided his cases into two groups: (1) where episclera was alone affected and (2) where all scleral tissues and even the ciliary body and vitreous were involved. To these latter his attention had been particularly drawn and he regretted that he had never found anything to do real good; the cases just took their own way.

Mr. DEVEREUX MARSHALL (London) remarked upon the risk of using pilocarpine injections. Miotics tended to increase the local pain, and though they did perhaps tend to diminish corneal extension yet this did not compensate for the risk of blocked pupils.

Mr. CHARLES WRAY (London) thought that in extensions to the ciliary body atropine was called for, particularly in the ointment form.

Mr. W. W. GRIFFIN (Brighton) narrated cases which he had watched and the treatment adopted; he felt they were associated with a general lack of condition.

Mr. BISHOP HARMAN (London) remarked on the use of adrenalin for such cases; there was without doubt temporary blanching of the eye to the great pleasure of the patient but the permanent result appeared to be *nil*. In the case of an intelligent man who had run the whole gamut of treatments he had tried this drug; the man complained that it caused deep-seated pain and cloudy vision; vision was found to be diminished and the field contracted; both were recovered a week or so later. He thought that the use of the drug was not without danger, since there was theoretically the possibility of its producing some contraction of the retinal vessels and the same kind of anæmia of the retina as attended the use of large doses of quinine.

Mr. JOHN HERN (Darlington) was struck with the rather hopeless tone of the remarks as to treatment; he thought the constitutional condition underlay the local and must be sought out and treated.

Mr. DEVEREUX MARSHALL asked Mr. Bishop Harman whether he had noted any increase of tension with the use of adrenalin in the case which he narrated; he had noticed sudden increase following its use even to the suggestion of a glaucoma.

Mr. BISHOP HARMAN replied that in his case there had been no perceptible alteration of tension which throughout was normal.

Mr. RICHARD CLEGG (Clayton-le-Moors) noted the exacerbation of sclero-keratitis with menstruation. His most useful ally in combating the complaint locally was yellow ointment, beginning with low percentage and increasing steadily.

Dr. C. E. GLASCOTT (Manchester) also liked yellow ointment with on occasion belladonna, warmth and massage. He emphasised the importance of correcting even trivial errors of refraction in such cases.

Dr. JOHN WIDMARK (Stockholm) demonstrated

Martin Janson's Siderophone for the Detection of Iron in the Eye.

The electrical plan of the instrument consisted of two circuits, the primary having a dry cell, an interrupter and a coil; this last was placed at right angles to the centre of a coil in the secondary circuit, and induced currrents therein which were perceptible by sounds in a telephone receiver within the secondary circuit when the two halves of the secondary coil were not in electrical balance. Suppose this balance to be exact the approximation of the coil to a particle of iron would disturb it, a nearness shown by sounds in the telephone. The apparatus was undoubtedly very ingenious, simple, and handily set up; it had, however, to be proved whether or not it was sufficient to indicate the presence of very minute particles at a depth within the eye.

Mr. CHARLES WRAY read a paper on

Civilisation and Eyesight.

He said that it was generally believed that civilisation tended to produce myopia. This view had obtained credence, not from statistics, but because it appeared to be in harmony with the theory of evolution, yet it was far from clear that myopo-genesis was due to adaptation. True evolutionary "adaptation" emphasised the subordination of the individual to ancestry, but ordinary myopo-genesis subordinated ancestry to individual, and was compared with the undoubtedly true "adaptation" as rapid in the life of the species as post-operative astigmatism was in the life of the individual. The principal difference between the two forms was due to the fact that such myopo-genesis as that seen in schools was avoidable, and therefore a more or less voluntary condition; to determine this they required knowledge as to the frequency of each of the hypermetropic and myopic errors, excluding all blood relations to avoid bias. By a calculation based on a comparison of averages of many cases with the law of probabilities he showed that whilst one was able to estimate with great accuracy the number with each grade of hypermetropia up to 6 D., and approximately the right number of myopes, the myopia of the myopes was much greater than it should be. − 5 seemed to be nearly as common a refraction as − 2, and it ought only to occur once in 1759 cases, whereas it occurred in from 1 per cent. to 2 per cent. − 4 and + 6 should be of equal frequency, and − 8 should be as frequent as + 10—i.e., it should occur once in some hundreds of thousands of cases. As a matter of fact, a refraction of − 8 *and upwards* was met with in over 4 per cent. of Mr. Wray's cases. If these results were accurate then civilised environment had had little effect on the hypermetropes, and causes that had failed to operate on them had operated on myopes, making their myopia much higher than it should be. A striking feature of the results

was the small number of persons with − 1 and − 2, especially when it was remembered that such diminution was necessary, or the large percentage of cases with over − 2 D. as found in verification would have been impossible. He noted that high myopia was not uncommon in children of tender years—i.e., in eyes that had not been exposed to close work—and found that it was a great exception for them not to have suffered from marasmus within the first five years of life, but a myopic eye would seem to be a necessary antecedent.

Dr. WIDMARK also read a paper on

The Etiology of Myopia.

It was agreed, he said, that eye strain during adolescence was a decisive cause, but not as to the producing factor of the visual act. Of the three factors, accommodation, convergence, and retinal perception, the first two had received great attention, he felt to the neglect of the last. Opacities of the cornea and astigmatism of one eye tended to throw excessive and short-distanced work on the sound eye, and within his experience this sound eye was the earlier affected with myopia. Excessive convergence he thought disproved by the fact (1) that in these cases the poor eye took little part in vision; (2) that after the excision of one eye in children myopia might occur in the other; and (3) of the liability to divergent strabismus in myopia; for each of these statements he gave evidence of many cases. He further combated the opinion as to the causative influence of excessive convergence by a series of observations which went to show that no excess was present or possible with the majority of his myopes, also by the fact that staphyloma did not occur at the point where excessive strain on the globe should fall did the traction of the optic nerves become serious. He thought that the great use of the eyes such as reading demanded tended to cause a hyperæmia in the bottom of the eye, allowing of softening and subsequent stretching of the coats. These factors would be particularly powerful where from defect of one eye greater work was thrown on the other or sounder eye.

In the discussion of the two papers which followed Dr. MADDOX objected to the exclusion from count of blood relations; he thereby directly diminished the influence of heredity. He thought the calculation showed very clearly that high myopes arose from low myopes rather than hypermetropes.

Lieutenant-Colonel DRAKE-BROCKMAN said that in 1867, on his first experience of eye work in India, he noted but few cases of myopia; since then, with the increase in native schools, it had become quite extensive.

Dr. GRIFFITH expressed his disbelief in the prevalent idea that hypermetropes might become myopes. He had never had such a case under his notice, but he quite agreed that high myopes were produced from low myopes.

Mr. DOYNE was astonished at the statements of the last speaker; it was to him a matter of common observation that hypermetropia did sometimes diminish even to the production of myopia.

Mr. J. B. STORY (Dublin) also agreed in the occasional change of hypermetropia to myopia; he also controverted Lieutenant-Colonel Drake-Brockman's deductions from Indian experiences. He felt the cases had existed but had not applied for relief. The majority of his high myopes came from the West of Ireland from among folk not of the highest intellectual ardour, and amongst whom the bad influences of civilisation had little effect.

Dr. MCGILLIVRAY expressed his surprise at some remarks made; he certainly had noted cases of hypermetropia turning to myopia where the use of atropine effectually excluded error; one case he certainly remembered where an error of +2 D. became −3 D.; further, high plus errors were common in young people but rare in adults. How came the diminution? Certainly not merely by increased density of media.

Mr. HOLMES SPICER also had seen such changes but the degree of change had not within his remembrance been greater than from 2 to 3 D. He thought Dr. Widmark's paper of great interest; still he felt convinced of the truth of the convergence theory of increase of myopia, at any rate it was too good a working hypothesis to be dropped easily. He felt that Dr. Widmark's ideas must first be tested on a wider range of cases.

Exhibition of Cases.

Dr. DAVID MCKEOWN (Manchester) showed two cases: 1. A case of Double Congenitally Displaced Transparent Lens treated by Discission. The patient was a male, aged 20 years. He had always had very bad vision both far and near. Glasses were of no use; the lenses were displaced upwards and their edges crossed the pupillary area. Both eyes had been operated upon; in the left the lens had become opaque and in the right it had been absorbed, so in each case a single refractive series replaced the former double series. The results were excellent. The man now did better work and obtained higher wages. 2. A case of Chronic Ulcer of the Cornea in a women aged 60 years. It had existed 23 months and was not healed yet; it commenced after an attack of influenza, without apparent immediate cause. He thought it was a case of damage to the fifth nerve succeeding influenza.

LARYNGOLOGY.

WEDNESDAY, JULY 30TH.

Professor GUSTAV KILLIAN (Freiburg) opened a discussion on

The Diagnosis and Treatment of Foreign Bodies in the Upper Air-passages and Gullet.

He said that his special part of the subject was to draw attention to the direct methods of examination which were based upon the recognition of the fact that it was possible to penetrate in a straight line with instruments into the air-passages and œsophagus without damaging these organs. In the case of the œsophagus the œsophageal probe with olive-shaped end and skiagraphy did not always give trustworthy diagnostic results. The olive passed along the posterior wall of the gullet. In case a foreign body was impacted in the anterior wall it might pass it without coming in contact with it. In the Roentgen-gram the shadow of a foreign body in the gullet might be hidden by the shadow of the vertebral column or the heart, and many foreign substances gave no shadow at all. Direct œsophagoscopy was the only absolutely trustworthy method. Kussmaul attempted this in the year 1868; von Mikulicz, von Hacker, Rosenheim, and others succeeded in developing and completing this method. It might be employed in most patients by practised hands; as a rule local anæsthesia with cocaine was sufficient; in excitable patients and in children general narcosis was necessary. By means of œsophagoscopy the gullet might be systematically searched from above downwards; it was possible to recognise the exact place and form of the foreign body, its shape, its position, and its relation to the gullet wall, and to see whether the latter was inflamed or had been injured by previous vain attempts at removal or pushing forward the foreign body. Thus œsophagoscopy would show everything that might be of importance for the purpose of the removal of a foreign body and it would further allow an attempt at extraction under the strict supervision of the eyes. The most suitable instruments for extraction were those in the shape of slender forceps; by careful traction, or eventually by moving and turning, the foreign body was freed and then removed slowly either through the œsophagoscope or, if too large, together with the latter instrument. This method was of special value for the extraction of foreign bodies in cases of stricture of the œsophagus where particles of food had become impacted, and patients had thus been spared from undergoing œsophagotomy and gastrostomy. If the foreign body was large, had sharp edges, points, or hooks, as, for instance, dental plates, all attempts at extraction were dangerous; these might easily lead to fatal injuries of the gullet. In such cases œsophagotomy was indicated if the foreign body was situated no deeper than from 24 to 26 centimetres from the upper incisors; if deeper, gastrotomy or posterior mediastinotomy was called for. An exception might be made in the case of vulcanite plates without large metallic parts. Professor Killian succeeded in cutting such a plate (which was fixed at a depth of 35 centimetres) into pieces by means of a galvano-cautery snare, and in removing it piecemeal. In cases in which one had been able to see that the wall of the œsophagus had been deeply injured extraction should not be attempted. Early œsophagotomy was here required and it was easier to locate the injured part whilst the foreign body was still fixed. The same principle which lay at the foundation of œsophagoscopy had within recent times also been applied to the trachea and bronchi. One was able to make an inspection right down into the lungs by the introduction of straight tubes into the trachea and bronchi, a fact most important for finding and removing foreign bodies. Professor Killian said

that he did not wish to detract from the merits of ordinary or indirect laryngoscopy (by means of the laryngeal mirror). This had had triumphs in the diagnosis and removal of foreign bodies from the larynx, but just in those cases in which foreign bodies most frequently occurred—namely, in children—insurmountable difficulties often arose. In these cases direct laryngoscopy (Kirstein's autoscopy) could always be successfully employed, especially after administration of an anæsthetic, and the patient's head being in a dependent position. Of course, if there was much dyspnœa a preliminary tracheotomy must be performed. He had thus been able to remove from the larynx of a child a tightly-fixed collar-stud which would otherwise have required a thyrotomy. This method was of even greater use in the case of impaction of foreign bodies in the trachea, as ordinary laryngoscopy frequently failed. Pressure on the base of the tongue or the laryngeal surface of the epiglottis with one of the different spatulas designed by Kirstein might suffice to give, even in young children, a view into the trachea. But Professor Killian preferred to employ direct upper tracheoscopy, using a straight tube of sufficient length and of a width small enough to get through the rima glottidis. He was thus entirely independent of any disturbing reflex action of the pharynx or larynx. In the adult local anæsthesia with a 25 per cent. alcoholic solution of cocaine was nearly always sufficient, but a preliminary injection of morphine in addition was a great help. In children it was best to give chloroform, the head hanging over the edge of the table. He preferred not to use a "mandrin" or the finger as a guide, but he introduced the instrument without "mandrin" under the guidance of the eye, looking continuously through the tube and finding his way gradually through the pharynx and larynx into the trachea. Foreign bodies were thus easily discovered and extracted. If freely moveable they were apt to be blown against the lower end of the tube and might thus produce attacks of suffocation; by pressing the foreign body back respiration was at once made free again. If tracheotomy had been necessary and the foreign body had not been coughed up, a short tube might be introduced through the tracheotomy wound into the cocainised trachea—lower direct tracheotomy, a method employed by Pieniaczek. Aspirated foreign bodies were specially apt to become fixed in the bronchi. If only just beyond the bifurcation, upper or lower direct tracheoscopy was all that was necessary for diagnosis and extraction. If deeper down he employed tubes of greater length which he introduced into the cocainised bronchi. The bronchi, which were highly elastic tubes imbedded in soft tissue, might without fear be pressed into the median line and the trachea, larger bronchus, and branch might thus be brought into one straight line. Thus out of the upper and lower tracheoscopy his methods of upper and lower bronchoscopy were evolved. Bronchoscopy allowed the whole bronchial tree to be searched. Though the left principal bronchus branched off at a sharper lateral angle it was through gentle pressure brought almost as easily into view as the right. The view had to be kept clear by sponging the secretion away or by sucking it up by means of a small pump designed by Professor Killian. For all these methods of examination illumination was best made by Kirstein's forehead lamp; for demonstrating purposes Kaspar's handle was most useful. The foreign body could thus in most cases be found or its absence proved with certainty. One contingency had to be kept in mind. If a tube was introduced into a principal bronchus which was entirely stopped up by a foreign body respiratory difficulties would at once occur, as air would not pass in large enough quantity into the other healthy lung at the side of the tube; in such circumstances the tube introduced should have a lateral opening at some distance from its lower end. For the removal of foreign bodies from the bronchi a good view, great care, and quietness in procedure were essential. Slender tubular forceps, blunt hooklets (especially in the form of the well-known Lister's hook), were the instruments of most use. Their manipulation at so great a depth was not an easy matter, but might be learned and practised on a phantom. Hitherto bronchoscopy had been employed in 20 cases. Of these 11 were under Professor Killian's care. Nearly one-half of all the patients were children (six aged between two and six years and four at ages from eight to 12 years). The foreign bodies were of the most varied character; they had in one-half of the cases been inhaled a few days before; in the other half they had been in the lung for months or years. In nine out of the 11 cases in which upper bronchoscopy was employed it led to certainty of diagnosis. In two cases it failed—in one, because the foreign bodies, small feathers as fine as down, were too small, and situated too far towards the periphery; they there coughed up afterwards. In the other case, a large pin with a glass head, aspirated 10 years previously, had become imbedded peripherally into what was probably fibrous tissue. In all the nine cases in which lower bronchoscopy was employed it established the diagnosis. Twice it could be proved with certainty that the suspicion of a foreign body in the lung was unfounded. Extraction was attempted in 15 cases, and succeeded eight times with upper, and five times with lower, bronchoscopy; in two cases recorded by Thost (Hamburg) and Spiess (Frankfort) it was unsuccessful—in one case owing to the want of suitable instruments and in the other because the foreign body lay in an abscess cavity with a narrow opening. Both these patients died. Of the patients in whom extraction was successful only one died, and that nine months later, from purulent pleurisy of the healthy side. Considerable stenosis had occurred at the place where the foreign body—a collar-stud—had been lying for five months in the left principal bronchus. Extensive bronchiectasis had undermined the larger part of the atelectatic lung tissue, which also had undergone extensive fibrous degeneration. Two cases in which the foreign body had remained in the lung for a long time were considerably improved as far as the lung trouble was concerned. All the other patients were permanently cured, the severe and acute lung symptoms disappearing rapidly. Professor Killian gave the facts of some of the more specially interesting cases which showed that within a comparatively short time bronchoscopy had given a rich percentage of successes. (Practical demonstrations were given by Professor Killian of his methods of bronchoscopy and œsophagoscopy.)

Dr. JOHN MACINTYRE (Glasgow), in his opening speech, dealt with the progress made in the examination of the upper air-passages and the œsophagus by means of illuminative and radiant matter. He considered that the value of the x rays had not been fully appreciated, for not only could foreign bodies be detected by means of them but the tissues also could be differentiated. Dr. Macintyre gave a lantern demonstration of the apparatus and the methods he used for investigating by means of the x rays cases of foreign bodies in the upper air-passages and œsophagus. Photographs of a powerful magnet used for extracting foreign bodies were demonstrated on the screen. A series of radiograms was also shown illustrating the positions occupied by foreign bodies.

Dr. J. WALKER DOWNIE (Glasgow) continued the discussion and gave a lantern demonstration of a large variety of foreign bodies which he had recovered from the upper air-passages.

Mr. W. THELWALL THOMAS (Liverpool) spoke of the superiority of the metal-ended probang over other probangs for sounding and of the metal-ended black-bristle probang for the extraction of foreign bodies in the œsophagus. The œsophageal bougie he considered to be only of service in the diagnosis of foreign bodies.

Dr. R. O. WILD (Zürich) thought that Dr. Macintyre's suggestion of using a powerful magnet in the region of the thorax for the extraction of foreign bodies might be attended with danger.

PHARMACOLOGY.

THURSDAY, JULY 31ST.

Dr. RALPH STOCKMAN (Glasgow) opened a discussion on

The Therapeutic Value of Arsenic and the Justification of its Continued Use in the Light of Recent Observations concerning its Toxic Action.

After Dr. Stockman had eulogised the acumen of the members of the medical profession in Manchester in connexion with the late epidemic of arsenical poisoning he proceeded to point out that poisonous effects very seldom followed the exhibition of arsenic in appropriate doses of the official preparations. The recent epidemic to which he had referred had demonstrated that many persons were constitutionally unable to resist the influence of poison in arsenical beer. The eyes of the profession had been opened to the extreme danger to the nervous system of overdoses of arsenic. Dr. Stockman showed that whilst alcohol did not cause pigmentation it might produce peripheral neuritis and that arsenical alcohol was liable to produce both those symptoms.

Dr. M. POPE then spoke from the point of view of arsenic in the treatment of chorea. In his opinion the recent wholesale poisoning by arsenical beer might result in neglect of such a valuable remedy as arsenic. It had to be admitted, of course, that some cases were obviously unsuited for treatment with the drug.

Professor R. B. WILD (Manchester) drew attention to the fact that his notes of the arsenical beer epidemic of Manchester showed that women were much less tolerant of arsenic than men. What he was astonished at was not the number of people affected by the poison but the number of people who escaped any evil consequences.

Dr. A. P. LUFF (London) expressed the view that the epidemic should be the means of inducing medical men to take heed in regard to any of their patients showing an intolerance of arsenic.

Dr. F. W. TUNNICLIFFE (London) urged that until more complete investigation had been undertaken the opinion should not be positively stated that very small doses of arsenic produced the intense symptoms that had been described.

Dr. E. S. REYNOLDS (Manchester) next spoke and emphasised the point that the dose of arsenic in arsenical beer was greater than had been reported. One result of the recent epidemic was that they had learnt that in analysing for arsenic a certain proportion remained in the apparatus. It had been estimated that in one gallon of beer containing arsenic the amount of the poison was from one and a half to two grains.

FRIDAY, AUGUST 1ST.

The PRESIDENT (Dr. NESTOR TIRARD of London) dealt with the subject of

The Local and General Treatment of Diphtheria.

He thought that since the introduction of antitoxin in 1890 the experience of the last 12 years had fully shown its value. From 1891 to 1896 the new method of treatment appeared to establish its claim on the attention of the medical profession, but from 1895, when the medical superintendents of the Metropolitan Asylums Board hospitals issued their special report, and from 1898 when the Clinical Society issued a report upon the clinical value of antitoxin in diphtheria, the whole question appeared to him to be settled. It was true that during these years the treatment had been continually assailed, and notwithstanding the reduction in the mortality, which appeared to have been undoubted, many ill-effects had been attributed to the use of antitoxin. It was perhaps only necessary to remind them of the greater frequency of paralytic conditions and of albuminuria and also of the production of rashes of various types, all of which were laid to the credit, or rather to the discredit, of antitoxin. Many of the attacks appeared to be based upon sentimental grounds; some upon a conservative antagonism to new forms of treatment. In 1897 he ventured to write a small book on the subject of diphtheria and antitoxin in which he detailed his experiences, and he thought that as an unwilling convert his experiences would receive attention. Attention was certainly roused, for immediately after the publication of the book he received an anonymous letter which was so precious that he ventured to introduce it there. "Has Mr. Nestor Tirard noticed a paragraph in the *Cable* in which it is stated as a fact that the juice of a pineapple will cut the diphtheria membrane when nothing else will? Why not try this and discard the disgusting and cruel antixonial (*sic*) treatment? All these systems allied to vivisection are wrong. Has Mr. Tirard read what is written in the Bible about 'doing evil that good may come'? It is written, 'Their damnation is just.' And spiritual clairvoyants say that the fate of vivisectionists beyond for a long period is too awful. So long as such practices are tolerated the hospitals will never get sufficient money as the bulk of the populace, and all right-thinking men and women, are against it. From an Influential Person." This letter was of extreme interest as indicating the attitude of many earnest but prejudiced persons. Still, in the interval he had thought that the numerous reports on increasing experience with antitoxin had carried conviction to the medical profession at least, until the appearance of the recent correspondence relating to diphtheria and its treatment at Colchester, in which the use of antitoxin in diphtheria was termed "bowing the knee to medicinal Baal." The whole question, therefore, appeared to be re-opened and ripe for discussion. He did not propose to weary them with statistical proofs. Those were to be found in the reports before-mentioned and would prove interesting reading. The points he wished to raise were briefly these: (1) whether any remedy or remedies gave the same sense of security and of hope that were derived from the use of antitoxin; (2) whether the ill-effects attributed to antitoxin were not rather sequelæ of the disease, their greater frequency being due to the fact that since the use of antitoxin so many more patients lived to experience such sequelæ; (3) whether the disease, even in its milder form, could be safely treated by any local or general measures; and (4) whether after the use of antitoxin greater security was obtained in laryngeal cases by the use of intubation or by the performance of tracheotomy. Incidentally he would wish to draw attention to the very different rates of mortality which occurred with nasal and post-nasal cases as compared with pharyngeal cases, and he would also like to draw attention to the diminished frequency of laryngeal diphtheria since the employment of antitoxin. During many years in the wards of a children's hospital in London he had seen many so-called specifics tried. Most of these were of the nature of antiseptics. Of the local measures he might perhaps mention lactic acid, boric acid, perchloride of mercury, biniodide of mercury, sulphurous acid, and paraffin. Some of these were directly applied to the membrane on a swab of cotton-wool. Others were used in the form of spray. It had further to be noted that sometimes the membrane was carefully detached before the application of the remedy, although that method of treatment was speedily discarded, as the membrane almost invariably spread more rapidly, owing to the production of a raw surface. For all of those remedies good results were claimed in individual cases, and although many proved rebellious to any of these forms of treatment the mental attitude of dealing with diphtheria was as follows. If the case was seen early and the membrane was confined to the soft palate and fauces and did not spread rapidly they became somewhat sanguine. On the other hand, if laryngeal dyspnœa arose, as evidenced by increased rapidity of breathing and marked retraction of the costal margins, they might be obliged to perform tracheotomy, and in many epidemics this operation merely seemed to render death less painful. It must be admitted that from time to time long lists of consecutive cases in which tracheotomy had been performed successfully were produced by the medical officers; but these brilliant results could not always be counted upon and were indeed sometimes viewed with some suspicion. Since the introduction of antitoxin they had been far more hopeful. When the case was seen sufficiently early and the remedy immediately applied the frequency of laryngeal diphtheria was much diminished, although, unhappily, in poor districts children were often brought to the hospital when the aspect of the case was extremely grave. Still, although in a general hospital the selection of cases was distinctly against them—since all who were well enough to undertake the journey without danger were sent to the nearest fever hospital—yet their results continued to afford satisfaction and, as he had commenced by saying, he thought that one of the chief points to be considered was the relative advantage of intubation and of tracheotomy. That question, according to his observation, appeared to be determined largely by the manual dexterity of the medical officers. Some appeared to find a difficulty in inserting the intubation tube. They scarcely seemed to realise the alteration in the direction of the tube which resulted from any slight change in the position of the hand of the operator and accordingly with some he had no doubt that the child was in a condition of greater safety if operated upon by the method which was easiest to the operator. On the other hand, he must express his personal preference for the use of intubation rather than of tracheotomy. They had all probably noted the rapidity with which the membrane in diphtheria liquefied and disappeared after the use of antitoxin. They were frequently able to remove the intubation tube within 24 or 48 hours of its first introduction. On the other hand, when tracheotomy had been performed it was often difficult to remove the tube as early, since in many instances the child felt a nervous dread of the removal of the tube and ceased to breathe. Sometimes, however, that arrested respiration was undoubtedly due to changes in the positions of the cords or due to agglutination of their margins. He had witnessed several cases in which after tracheotomy in diphtheria the child had been doomed to

employ a tracheotomy tube for some years, and his impression was that possibly in some of those cases the trouble was due to keeping the tube in too long and that it would not have arisen had intubation been performed.

INDUSTRIAL HYGIENE AND DISEASES OF OCCUPATION.

WEDNESDAY, JULY 30TH.

Dr. S. KING ALCOCK (Burslem) read a paper opening a discussion on

The Value of Systematic Examination of Workers in Dangerous Trades.

He said that it might be assumed that the official aim in instituting these examinations was (1) elimination of the unfit; (2) early recognition of dangerous symptoms and consequent diminution in the amount and character of trade diseases; (3) improvements in the treatment of lesions in certain trades (e.g., bi-chromate); and (4) accumulation of statistics. In actual practice the following results were being secured: (1) gradual elimination of the unfit (whether from inherent debility or from illness produced by occupation); (2) better standard of hygiene, consequent on repeated warnings, &c.; and (3) accumulation of valuable statistics concerning the original and acquired characteristics of workers—e.g., age-limit, relation between pregnancies and miscarriages, order of development of symptoms of poisoning, &c. There were limitations in the amount of accurate information obtainable. The ordinary medical inquiry into the state of a patient comprehended a pertinent questioning and an unimpeded physical investigation, but the industrial examination was *sui generis* and had little in common with the conditions obtaining in private or hospital practice; it compared more closely with the examination of a candidate for life assurance, as in both cases the truth might only be elicited with difficulty and with little voluntary co-operation from the examinee. Consequently there was a limit of accuracy as the verdict depended on the report received from the worker (who often suppressed inconvenient truths) added to facts brought out by the incomplete physical examination. A well-lighted room affording privacy for each examination was essential. Notes put in a factory register necessarily could not be full, many details could not possibly be inserted. Therefore it was wise to keep a private note-book. The general type, facies, pallor, speech, tongue, tremor in outstretched hand, grasp, and resistance to forcible flexion of wrist, should be noticed. If strabismus was present it should be noted whether it was of old standing or recent, and if ocular troubles seemed imminent optic neuritis should be examined for. In deciding on suspension or rejection the personal element in judgment was necessarily involved, and a plan that he had found very satisfactory in practice was to classify the cases according to the degree of severity. Slight: colic, pure and simple, of short duration; female anæmia in adolescence, aggravated by employment. Moderate: colic with anæmia; advanced anæmia, apparently uncomplicated; slight muscular paresis. Severe: advanced paralysis; encephalopathies. In estimating possible causes, after reviewing them as producible apart from industrial poisoning it was well to remember the value of associated symptoms, each of which taken separately had little pathogenic significance. It was well to suspend or to reject young persons of either sex for slight reasons, but to act more cautiously in the case of the bread-winner of a family. Warnings instead of actual suspension were often useful and persistent threats and an inquisitorial style of examination were often effective. The periodical examinations were just as necessary now, notwithstanding the general regulations governing work in factories, because no restrictions could keep the careless worker free from danger. Cases of poisoning of a slight and doubtful type were always in evidence, while the reports of independent practitioners had shown that there were still sections of employment as yet unscheduled which should be included as dangerous, so that their addition to the schedule must follow.

Mr. B. M. BOND (Poole) contributed a paper which was read by the Secretary. In it Mr. Bond stated that in his district the examination of women and young persons who worked in dangerous trades had been carried out every month for nearly four years. The chief value of the examination, in his opinion, lay in the power possessed by the surgeon to suspend or to discharge female workers injuriously affected by their work. The only toxic substance with which he had to deal was lead and his workers were majolica-painters and colour-dusters. The two states of the worker obviously most in need of supervision were pregnancy and anæmia. He believed anæmia to be the most dangerous factor in female workers. He thought that colic and gastro-intestinal troubles generally were the prerogatives of the house-painter for the most part. Starting with a diminished number of red blood-cells, and corresponding enfeeblement of oxygenation, the influence of the lead on the blood-cells actually present was entirely pernicious; the blood became more watery, the red cells were reduced below their (already) low standard, and the end came with startling suddenness. It was a matter of great difficulty in localities where anæmia was prevalent to distinguish anæmia *a loco* from anæmia *a plumbo*. Certain individuals were highly susceptible to the influence of lead, and in some cases this influence was not demonstrated by any obvious sign or "signal symptom," until they suddenly became unconscious and died. The lead-line on the gums was often conspicuous by its absence. To suspend a girl from her work because she was anæmic might be unfair to one who had always been anæmic, and the gradual increase of pallor, without the blue line, headache, colic, or peripheral neuritis, was extremely difficult to gauge. The cases of girls with fresh complexions who became sallow, heavy, and cachectic at their work were clear, but the fatal cases that had occurred in his experience had been of a nature that nothing short of a periodic blood-count could have foreseen. The pathology of plumbism was still undetermined. He had for some time held the opinion that in the great majority of cases lead entered by the digestive system and was in most cases inhaled by the mouth and absorbed by the oral and pharyngeal mucous membranes, in addition to being swallowed dissolved in saliva. The action of the lead after its entrance into the system was also a matter of great difference of opinion. It was difficult to exclude the blood in any case, as the lead must be carried to an organ before the latter could be injuriously affected. He thought that in all cases of lead-poisoning the blood was primarily affected and that in cases of saturnine encephalopathy it was the only part affected. With regard to prophylaxis much might, of course, be done. The daily ingestion of sulphur—in dose proportionate to the work—could be strongly impressed on the minds of the workers. The worker in lead must be surveyed as an individual and idiosyncrasies must be carefully studied and allowed for—the "personal equation" was of vital moment. The soil on which she lived, the climate in which she dwelt, must be taken into account. The swing of the pendulum in its monthly excursions must be carefully estimated and corrected. The *nuances* of energy and vitality, of buoyant vigour and alertness, must be weighed or compared; the increase of pallor or the reverse must be clearly stamped on the observer's mind; in short, the whole aspect of the worker must be closely scrutinised.

Mr. W. H. VICKERY (Newcastle-on-Tyne) thought that every worker in lead absorbed a certain amount, and it was the duty of the inspecting surgeon to try to determine at what point this absorption passed the boundary-line of safety. The main signs which the text-books laid stress on were the blue line on the gums and the appearance of muscular weakness in the extensor muscles of the hand and wrist, but it was difficult to appraise either of these at their correct value. The blue line varied in the rapidity of its onset and on its intensity according to the condition of the mouth and teeth. A worker with a number of carious teeth and who never used a tooth-brush rapidly acquired it, while one suffering from severe lead colic who had a complete set of false teeth showed no blue line at all. The presence of muscular weakness was always difficult to determine. Some men naturally had greater power of wrist extension than others and in the usual method of examination could extend their wrists well, even some time after the trouble had started, and since some of the inspectors had been in the habit of trying the power of extension in the men the men had taken some trouble to develop their extensors to prevent being suspended from this cause. The most trustworthy sign, generally speaking, was progressive anæmia. It was a safer guide than any other sign, because the worker had no way of counteracting it.

Dr. W. A. ATKINSON (Camberwell) remarked that his experience in the systematic medical examination of workers employed in the enamelling of metal plates, where lead was

one of the chief ingredients of the enamelling powder, dated from July, 1897, since which period he had visited an enamelling firm in the factory district of Camberwell once a month and had carefully examined the men employed there. He considered that the periodical examination of lead-workers was undoubtedly a safeguard against plumbism, because it gave an opportunity of detecting some of the earlier symptoms, such as anorexia and constipation, and such cases, if taken away from the influence of lead and placed under appropriate medical treatment, seldom developed the more marked symptoms of lead-poisoning.

Dr. J. HOLMES (Radcliffe) said that at the tile-works from which his experience was drawn and which extended over seven years good results had followed systematic examination. In his opinion the blue line was misleading, for it depended in a large measure on the presence or absence of tartar on the teeth.

Dr. T. F. YOUNG (Liverpool) said in reference to phosphorus poisoning that anæmia was a pronounced symptom, and he was quite convinced that in trades involving the use of lead or phosphorus constant supervision and examination were very necessary.

Dr. THOMAS OLIVER (Newcastle-on-Tyne) in his paper stated that no doubt existed in his mind as to the benefits that accrued from a systematic medical examination of workers engaged in dangerous trades, and by that he meant an examination repeated at regular intervals. Although often extremely easy it was nevertheless sometimes very difficult, especially in the early stages, to detect the signs and symptoms of lead-poisoning. However valuable as a confirmative sign of plumbism the presence of a blue line on the gums might be this must not be regarded as a proof that at the time of its detection the worker was suffering from lead-poisoning. One of the earliest signs or symptoms of plumbism was slight alteration in the complexion of the worker with complaint of a metallic taste in the mouth and diminished zest for food. As a rule there was something in the general aspect of the worker that informed the medical examiner of a man or woman becoming slowly poisoned. The ability to recognise this change was personal to the examiner himself. It was the man or woman who was being poisoned that should be considered by the medical man and not simply signs of lead-poisoning looked for. Lead often acted so slowly and insidiously that its effects were only very gradually produced. In many instances it was but a very small line that divided the ordinary workaday health of the white-lead worker from the fully-developed plumbism of the hospital in-patient. One or two days' additional employment in the factory and a female worker who was just on the verge of breaking down at the time of inspection was without further warning precipitated into the worst form of plumbism—viz., lead encephalopathy—in which she died or recovered but with her eyesight lost. There was a form of plumbism that developed with a suddenness almost akin to an explosion, and yet in such a case if careful inquiry had been previously made there might have been detected some premonitory symptoms. Such cases appeared every now and then in works notwithstanding systematic medical examination and their occurrence must not be used as an argument against the necessity of the examination but as a reason for the exercise of greater care and discrimination. In females working in lead processes the development of hysteria without any of the ordinary assignable causes would probably point to lead intoxication, and in pregnant lead workers the recurrence of abortion, or repeated miscarriage of a dead fœtus, while the mother herself remained healthy would indicate the probability of saturnine poisoning. Systematic medical examination of the workers was also beneficial to the employers. By saving the breaking-down in health of large numbers of the workpeople a particular trade lost the bad name it had made for itself with the public and employés were more easily obtained. Employers objected to the examination on account of temporary dislocation of the work and of the expense, but so far as expense was concerned that should become a tax upon the finished product. Apart from the irksomeness and their dislike of the examination as an examination what the workpeople objected to was the compulsory suspension from work with the loss of wages which this entailed. At present there were signs in one industry of how that might be overcome. The Staffordshire potters had recently agreed to compensate workers in lead processes who were laid aside through plumbism. They had undertaken to provide gratuitous compensation after the third week of suspension, the amount to be one-half of the wages on an average of the 13 weeks previously, and to continue this during incapacity from work for a year on the testimony of a medical certificate; also, where death occurred within six months of suspension a year's wages would be paid to the dependents. In order that any working potter should receive those benefits he must submit to the monthly medical examination and have been in a works or working in lead processes for 13 weeks before becoming ill. Workers could be protected by (1) improved ventilation of factories and removal of dust—the removal of dust was most important, for it was generally admitted that the dangers of lead-poisoning were greatest when the metal entered the system by respiration; (2) wearing of respirators; (3) alternation of employment; (4) good food; (5) systematic medical examination—the moral effect of which was to make the workpeople more careful than they otherwise would be; and (6) suspension and medicinal treatment.

Dr. A. SCOTT (Glasgow) thought that no person, old or young, should be employed in a dangerous trade without a medical certificate of fitness and that in addition to the usual monthly examination at the factory the certifying surgeon should have the power if necessary of visiting and examining absentees at their homes; while in industries in which there was danger of poisoning from lead, mercury, arsenic, phosphorus, or anthrax, every case of illness, however trifling, should be reported to the certifying surgeon in order that the disease might be early diagnosed and treated with greater hope of success.

Mr. COLIN CAMPBELL (Saddleworth) said that the blue line if present was an admirable aid to diagnosis but it might not be present in a large number of cases.

Dr. T. M. LEGGE (London) said he agreed with the suggestion that all cases of illness that were found in factories should be followed up in their homes.

Mr. J. KEAY also joined in the discussion.

The PRESIDENT of the Section (Dr. WHITELEGGE, C.B.) said that the results obtained from statistics and the information gained that morning could not but lead them to the conclusion that success so marked in the past ought to be extended to a wider field.

Mr. W. F. DEARDEN (Manchester), after alluding generally to the poisonous effects produced by substances derived from coal-tar on the health of those engaged in their manufacture and application, stated that although extensive investigations had been made in this respect in connexion with their manufacture and their employment in the production of explosives, little attention had hitherto been given to their effect on the workers in dye works and print works. He himself had observed among dyers of fast aniline blacks similar ill effects to those described in connexion with the other processes alluded to. In 1863 Lightfoot of Accrington patented a process of producing aniline black. Although this colour had been known for so long a period the high price of aniline and the difficulties encountered in obtaining a good and reliable shade without affecting the goods had up to about 12 years ago been adverse to its extensive application. These drawbacks had now been removed, with the result that the production of aniline black had become one of the commonest operations in dye and print works. Though each firm had its own particular process the principle involved in all of them was the same—viz., a rapid oxidation of the aniline in presence of the fibre. In making the dyeing solution some dyers used aniline salt and others aniline oil. The latter being volatile got into the surrounding atmosphere by the heat evolved when it was being mixed with the hydrochloric acid and could thus exert ill effects through inhalation. Poisonous effects might also result from the oil or a solution of the salt coming into contact with, and being absorbed by, the skin. This frequently took place through the practice of running the cloth through the hands when saturated with the dyeing solution. In the ageing process which followed the saturation of the cloth with the dyeing solution the material was subjected to a high temperature, so that in case of bad ventilation or of workpeople entering the ageing chamber cases of poisoning were likely to occur. It also sometimes happened that the aniline oil contained nitro-benzol as an impurity and it should be borne in mind that this substance was very similar to aniline in its toxic effects. The symptoms exhibited among the class of workers referred to were sickness, loss of appetite, weariness, pale countenance, blueness of the

lips and finger-nails, and, in extreme cases, unconsciousness. People were, however, not all affected alike, some being quite resistant to ill effects whilst others rapidly succumbed. Full credit was due to the dyeing trade for improvements that had already been carried out with a view to obviate ill effects, but the fact of a well-known poison being extensively used in an ordinary trade process, with known injurious results in the absence of proper precautions, showed the desirability of establishing some supervision. Among the precautions that he advocated were the use of aniline salt in place of oil, or if oil be used the provision of a suitable hood or other contrivance over the mixing vessel to carry off the noxious fumes; the boxing off of the drying cylinders; the provision of the suitable respirators for anyone entering the ager; the adoption of means to prevent the workpeople handling the cloth when saturated with the dyeing solution; and plenty of air space and efficient ventilation.

ETHICS.

THURSDAY, JULY 31ST.

Mr. C. S. LOCH, secretary of the Charitable Organisation Society, opened a discussion on

Hospital Reform

by reading a paper on the Better Organisation of Medical Relief. He commenced by quoting what the late Mr. Sampson Gamgee of Birmingham had said on hospital abuse some 20 years ago, showing how these remarks still applied in the present day. Mr. Gamgee had maintained that the bad out-patient department work "lowers medicine in practice to the mere act of administering physic in all cases, to the neglect of full inquiry into the cause of disease, and of well-considered advice for restoration to health in conformity with the laws of nature." The number of out-patients attending the 92 London hospitals had increased from 1,082,259 in 1887 to 1,448,026 in 1897, and to 1,584,987 in 1900. The number of in-patients had likewise increased, but there had been no augmentation in the number of medical attendants, the hospital staffs being approximately the same. This was as bad for the patients as for the profession. In 1899 inquiry had been made. General practitioners in different parts of London were questioned. One of them who had attended at the out-patient department of a London hospital for two years thought that the majority of patients would recover more quickly if attended in their own homes, adding that "cases of bronchitis and whooping-cough, which form no small proportion of the out-patient cases at a children's hospital, are made worse by being brought to the hospital." Then there were many instances where, after long attendance as an out-patient at a hospital, the patient consulted a private practitioner and then better results were obtained. The fact was that proper care could not be given at the hospitals because the out-patients came no one knew where from, changed from hospital to hospital, disappeared, and there was no means of ascertaining what had caused their diseases or what was the effect of the treatment given. The hospital was isolated; it received patients from the outer world but was not in touch with the outer world. What effort was made to link hospital treatment with the necessary sanitary changes in the patient's home? The cause of the disease thus often remained unremoved. The outdoor hospital treatment served as mere patchwork for the continuation of existing evils. There was not a "scientific method planned deliberately and definitely for the real cure of the patients." In London, certainly, the Hospital Sunday Fund insisted that an inquiry officer or almoner should be appointed, but little or nothing really effective had been done. At most, inquiries had related to some wage standard, but many other facts should be ascertained before it was possible to judge whether a patient was a fit subject for charity. If the wage limit was high then many persons would be admitted who could pay; if low, it would be constantly set aside. To show the amount of abuse that existed it would be noted that when the outdoor patients' department was temporarily closed there was a great increase in paying private patients. Three hospitals had attempted to make systematic inquiries, but their patients were too scattered and the inquiry should be uniform for all hospitals. The first thing necessary was for the medical men themselves to agree who should be admitted. To carry out any rule trained almoners were necessary, and such training necessitated one or two years' apprenticeship. The almoner should be able to see that the home conditions were in keeping with the requirements of the treatment and should be well acquainted with the Poor-law and with the charities that might help to provide such conditions. Where inquiries on these lines had been made Mr. Loch found that out of 1920 patients interviewed in the course of three months 82 had been referred to provident dispensaries, 104 to friendly societies, 18 to the Poor-law, 49 were sent away as being able to pay, and 44 were referred to the Charity Organisation Society, and 47 to other agencies, thus effecting a reduction of 344 patients. In another case the reduction amounted to 397 out of 1443 patients, or 27 per cent. of the applicants. Such elaborate inquiries were more fair to the poor than a mere arbitrary wage-limit. Of course, this ran counter to the system of appealing for subscriptions by reason of the number of the cases treated. If anything, the number of cures effected, the quality and not the quantity, should be the basis of such appeals. But to bring about such reforms a central controlling board was needed.

Dr. D. E. ANDERSON (Paris) then read a paper on Reform in Hospital Management, in which he argued that lay committees of management had proved a failure and placed the medical staff in a false position. The selection of senior officers should be made as in France. Patients should not be employed to do menial work in the wards and treated as inferior beings. They should be allowed to make complaints to some impartial authority. Many hospitals were in practice managed by one single person who was always a layman. Those members of the medical staff who failed to curry favour with this individual were soon compelled to resign. This could only be remedied by securing the appointment of medical men on the committees of management. The speaker knew of hospitals where medical men were in the majority on the board of management and there no complaint had arisen. In France the directors of hospitals were appointed by the Government and the staff by order of merit and after special and lengthy studies and examinations. The pharmacy department was also better managed.

Mr. E. H. T. NASH (Accrington) read a paper on Hospital Competition and said that the greatest evils arose in large centres and more particularly in regard to hospitals for special diseases. There was much abuse in Lancashire and a wage limit by itself would not suffice to remedy the evil. He related several cases of abuse occurring in his own practice and complained that at the Manchester Infirmary instead of giving a second opinion they kept the patients. Therefore, practitioners did not like to send difficult cases to the infirmary to obtain a second opinion for fear of losing them altogether.

The discussion was now thrown open and Mr. J. S. WHITAKER (Great Yarmouth) moved:—

That the Ethical Section desires cordially to thank Mr. C. S. Loch for his attendance and for the valuable information he has imparted on this subject of hospital reform, and the section would ask the Council to take into careful consideration the important suggestion of Mr. Loch that a standing joint committee of representative medical men and laymen shall be formed to collect facts already ascertained, investigate proposals for amendment, and, in conjunction with the Charity Organisation Society and the British Medical Association, take such further steps as may seem desirable to elucidate the subject and bring about reform.

Mr. Whitaker explained that he had not included in the motion the names of the readers of the other papers because they were members of the Association and members were naturally bound to work for each other. No such obligation rested on Mr. Loch and he thought it a good omen that the debate should have been opened by the able secretary of the Charity Organisation Society. Past efforts had failed for want of organisation. Such movements as had been attempted were only sectional. The grievances were old and well known to many among them, but they must hammer away and not fear repetition till the end was achieved. With the new constitution of the British Medical Association the machinery for action had now been provided.

Dr. J. DULBERG (Manchester) formally seconded the motion. He confirmed the statement that at the Manchester Infirmary patients were invited to come in and be treated when they were sent by their private medical attendant for a second opinion. Such conduct was opposed to the *esprit de corps* that should prevail throughout the profession.

Mr. H. NELSON HARDY (London) protested that a good deal had been attempted in the past, though it was necessary to admit that the results were not encouraging. The British Medical Association had appointed a sub-committee on

medical charities which met in London during the month of June this year and drafted a scheme for the management of out-patient departments of hospitals. It had made 12 recommendations. First, notices should be posted to the effect that none but the poor would be admitted. Then an officer should be appointed to question applicants, to register their answers, and occasionally to call at their homes to verify these statements. The age, sex, occupation, and pecuniary position of each patient should be fully recorded. A wage limit based on local and general conditions should be enforced except in cases of urgency. A qualified practitioner should see that no infectious cases were admitted into the waiting rooms. No medical officer should attend more than a fixed number of fresh cases each day, and the limit "shall be such as to insure a reasonable average space of time being devoted to each patient." When the applicants exceed in number this limit preference should be given to those who were seriously ill and then to those who "bring letters of recommendation from doctors or governors." Suitable arrangements should be made for practitioners to consult with members of hospital staffs when they certified that their patients could not pay a consultant's fee. If the medical attendant could not attend personally he should give his patient a sealed statement of the case. Patients should be admitted to the consultation in the order of their arrival. All gratuities to porters, &c., should be strictly prohibited. No charge, however small, should be made to out-patients. The out-patient department should coöperate with other institutions for the relief of the poor with medical men, clergy, and others working among the poor. Mr. Hardy, after enumerating the above recommendations, stated that they had been accepted by six hospitals and were partially applied in other hospitals. They had now facts enough in regard to existing grievances and only needed a definite plan of action.

Dr. W. MUIR SMITH (Eastbourne) explained that at the Eastbourne hospital the medical officers alone decided whether the applicants should be admitted. Every patient must have a written sanction from his usual private medical attendant.

Dr. F. E. WYNNE (Leigh, Lancs) explained that in his town there were 40,000 inhabitants, mostly colliers, and though many accidents occurred they possessed no hospital. When necessary the patients had to be conveyed to the Wigan or Manchester hospitals. Two years ago a movement in view of building a local hospital was started. The local practitioners approved but objected to the creation of an outdoor patients' department. He explained how throughout the medical men had been treated with but scant courtesy. The outdoor patients' department, they were told, was necessary, otherwise the workmen and colliers would not subscribe. If the local medical men objected house surgeons could easily be imported and encouraged to set up a practice in the neighbourhood. The public, he thought, had assumed a hostile attitude towards the profession. The recent efforts to organise the profession had engendered a belief that the public were about to lose what they conceived to be their vested right in gratuitous medical service. He was anxious to know what could be done to prevent the establishment of outdoor patients' departments.

Mr. R. H. KINSEY (Bedford) thought that the indoor department was fed from the outdoor department. Though abuses arose out of the ticket system, yet without tickets they could not get subscriptions. But when a governor gave a ticket injudiciously the hospital managers should write to him and expostulate. Good results also had ensued when members of the managing committee occasionally visited the waiting-rooms and questioned the applicants. Much of the abuse was due to the medical men themselves. The hospitals competed against each other and tried to show the longest list of applicants.

Dr. MAJOR GREENWOOD (London) protested against the acceptance of any sort of payment as it destroyed the charitable aspect of hospitals. Many better-class people went to the hospitals and thought that they had fully met the case by "putting silver in the box." He had never found any difficulty in obtaining a second opinion from the staffs of the London hospitals.

Dr. ALFRED COX (Gateshead) insisted on the growing danger due to the fact that workmen now subscribed such large sums for the maintenance of hospitals that they thought they were paying for the services they received and also expected to govern the hospitals. This would lead to the State or municipal ownership of the hospitals. When so many paid for their maintenance they would inevitably come under public control. The question rested on the trend of economic development; and this went to make the workmen masters of the hospitals. But if the profession could be organised as the workmen were organised the general practitioner would also reduce his hours of labour. He would then be able to do better work and would get more support than at present from the general public.

Mr. J. T. J. MORRISON (Birmingham) urged that it was necessary to act on economic lines and on the lines of medical science. The first affected their charitable subscribers, for their money was being misapplied. Also, a large number of patients would do better if they paid a private practitioner. They would save time lost in waiting and the risk to health due to the unhealthy conditions of the out-patients' waiting-rooms. He thought that the economic base should be argued more in the interests of the subscribers and of the patients than in the interests of the profession. The science aspects of the question were obvious, though lay committees were apt to consider the quantity of patients treated rather than the quality of the treatment. In regard to the Hospital Saturday movement he thought that Mr. Sampson Gamgee had left the town of Birmingham a terrible legacy. He had inaugurated this movement and last year the Birmingham workmen had collected £18,000. Of this sum they had made a free gift of £10,000 to the hospitals and the workmen claimed, and honestly believed, that the hospitals and the hospital staff belonged to them. Men earning £2 and £3 a week thought they had a right to be treated in what they considered to be their own hospitals. If any protest was made concerning a case of abuse the committee, for the sake of peace, soon let the matter drop.

Mr. LOCH was now invited to reply and after expressing his thanks for the reception which had been accorded to his paper he urged that special stress should be laid on the fact that the cure and not the quantity of patients was the main issue. The rule in regard to professional secrecy made it difficult to collect facts that could be put in as evidence. It was as necessary to be scientific in administrative as in professional work and, therefore trained experts were needed to apply the principles of reform.

The motion, as given above, was then put and carried unanimously.

Mr. NASH further moved that—

When a new out-patient department is opened it is essential that, with regard to it, conditions of management should be adopted which recommend themselves to the medical practitioners of the district.

This was seconded by Dr. LOVELL DRAGE (Hatfield) and carried with but a few words of explanation, the object being to strengthen the hands of the Leigh Medical Society in its efforts to prevent abuse of the new hospital to be built in that town.

TROPICAL DISEASES.

THURSDAY, JULY 31ST.

Dr. ANDREW DUNCAN (London) opened a discussion on

Dysentery.

He said that a discussion of dysentery might be well commenced by considering the unity of the disease. The symptoms of dysentery were pain, tenesmus, and the passage of blood from the bowel, but these were symptoms common to many forms of intestinal flux. Bacteriology had revealed several varieties of micro-organisms. Amongst these might be mentioned Shiga and Ogata's organism in Japan, Flexner's in the Philippines, a third variety described as occurring in Egypt, the bacillus coli dysenteriæ of Celli and Fiocca, and pyogenic cocci of various kinds; streptococci had been found to excite dysentery in animals; bacillus pyolaxeus prevailed in the United States, paramoecium coli had been observed in Cochin China, and there were numerous other micro-organisms found in connexion with forms of dysentery. In regard to the question of amœbic or so-called tropical dysentery in India Dr. Duncan was of opinion that the amœba had nothing to do with the causation of dysentery in that country; and he doubted the scientific accuracy of ascribing dysentery to the amœba in any country. There was no relation really between the numbers of amœbæ found and the severity of the dysentery; and further the amœba had been found in other ailments and in the normal intestine. Chronic

dysentery in India was marked by its infrequency nor were cases with intermissions alternating with exacerbations common. Elevation of the temperature was not a marked feature of dysentery nor was the mortality high when the treatment was commenced early in the disease. Large tropical abscesses did not bear any special relation to antecedent dysentery, but apparently multiple abscesses did. Recent Indian reports showed that "in 86 post-mortem cases of liver abscess, in 1900, 40 cases showed evidence of dysentery"; and between the years 1896 and 1900 dysentery was absent in 53 per cent. Hepatic abscess was rarely connected with dysentery in the West Indies or with the asylum dysentery in England, and had scarcely been met with during the recent war in South Africa. In the treatment of dysentery there seemed to be no reason to discard ipecacuanha in acute forms; cinnamon appeared to be an excellent substitute when ipecacuanha could not be tolerated. Salines in the hands of many practitioners in India had done great good. *Monsonia ovata* had met with indifferent success. Sulphur and Dover's powder in combination were most favourably reported upon by Duprez. It would appear, therefore, that dysentery gave different results with regard to treatment by different drugs in different countries.

Major W. J. BUCHANAN, I.M.S., Deputy Inspector of Prisons, Bengal, contributed a paper on

The Prevention and Treatment of Dysentery in Institutions in the Tropics.

Although dysentery, like pneumonia, might be a disease of multiple origin, at present they could clearly point to two forms: (1) the amœbic; and (2) the bacillary due to the bacillus of Shiga. The term "amœbic" was often regarded as being synonymous with "tropical," but as the amœbic form of dysentery occurred in places well outside the tropics the name was misleading. The amœbic form of dysentery was markedly chronic and had a tendency to relapse, but its main features were: that it was intimately associated with liver abscess, with the finding of the amœba, and by the absence of reaction with Shiga's bacillus. Amongst the 1130 cases of dysentery on which Major Buchanan based his observations not a single case of liver abscess was seen in the living or dead. Dysentery, although it might be associated with a polluted water-supply, would persist when the water-supply had been of excellent quality. The disease was also seasonal, especially prevailing during or immediately after the rainy season and reaching its minimum in the dry hot season. Good cooking and well-cleaned rice, wheat, pulse, &c., had a direct bearing upon the prevalence or subsidence of dysentery. The communicability of dysentery would also appear to be an important factor, for by isolation of the sick, disinfection of all bedding and clothing, and disinfection of all stools an epidemic could be arrested. As regarded treatment, (1) rest in bed; (2) milk fresh or curdled and such starchy substances as rice-water, sago, arrowroot, &c.; and (3) early medicinal treatment were most important. To begin with, castor oil and laudanum were useful; but sulphate of soda was to be recommended *par excellence*. One drachm of sulphate of soda in cinnamon or fennel water should be given four, five, or six times daily, until bright yellow soft feculent stools were passed without a trace of blood or mucus. Ipecacuanha and enemata might be useful; izal had proved useless; the sulphur treatment was not trustworthy. With so simple and efficacious a remedy as the saline method there was no reason for employing any other, for in Major Buchanan's hands, of 1130 cases of dysentery thus treated but nine deaths resulted, and in the last 272 cases not a single death occurred.

Major LEONARD ROGERS, I.M.S., contributed a paper on

Tropical or Amœbic Abscess of the Liver and its Relationship to Amœbic Dysentery.

Major Rogers stated that although the thick pus of a liver abscess was often free from amœbæ, yet if a scraping of the abscess wall was examined the amœbæ would be easily found and it was the only constantly found organism in "tropical" or amœbic abscess of the liver. Dysentery had been proved by clinical data or by lesions seen in the large bowel post mortem to have been present in 95·83 per cent. of liver abscesses recorded by Major Rogers. Patients frequently denied the fact that they ever had dysentery and yet post mortem the bowel might be found the seat of old or recent dysenteric attacks. Although the presence of a liver abscess might appear to coincide with an attack of dysentery it was possible, and in some cases proved, that there had been a previous attack of dysentery which had been forgotten. The amœbic type, as opposed to the catarrhal or bacillary type, of dysentery was associated with the large tropical abscess of the liver. In regard to alcohol as a direct factor in causing abscess of the liver there was evidence both for and against; as regards malarial infection, there was no proof that it played a part in the etiology of the disease. Major Rogers stated that the commonest seat of single liver abscess was underneath the diaphragm immediately above the liver and involving the liver to but a small extent. He believed that the amœba coli found its way from the gut along the peritoneal cavity to the lymphatics in the under surface of the diaphragm where "being stopped here by the suspensory ligament of the liver it might work its way into the organ at this point." The value of leucocytosis in the diagnosis of liver abscess was discussed by Major Rogers and he considered leucocytosis was most marked in comparatively small deeply-seated abscesses of the liver and less in those which were already beginning to come to the surface; in fact, this change was marked in those cases where the diagnosis was most difficult and in which leucocytosis would exclude malarial fever. As quinine in a solution of 1 in 5000 would kill the amœbæ, Major Rogers suggested washing out the cavity of the abscess with solutions of quinine. They were also worthy of trial as injections into the cavity of a liver abscess after aspiration of the pus as a possible curative measure, especially in such cases as were found to be free from the ordinary pyogenic organisms.

Dr. PATRICK MANSON, C.M.G., F.R.S. (London), wished to pronounce a word of warning against accepting agglutination tests as being a thoroughly trustworthy proof of the efficacy of any particular kind of micro-organism in dysentery. As a diagnostic test it might be efficient, but as a means of establishing the specific agency it was open to doubt. Dr. Manson's treatment for the cases of dysentery that he met with in London, which were necessarily mostly of a chronic type, was (1) rest in bed, however chronic the case; (2) rest to the intestine by non-irritating food and easily digested food in small quantities; (3) occasional doses of castor oil; and (4) doses of ipecacuanha lasting over a week and administered daily. The amœba seemed to be present in all cases of tropical abscess of the liver; it was not met with in Mott's "asylum dysentery" which was, moreover, amenable neither to ipecacuanha nor to salines. Still, he was not sure that the term "amœbic dysentery" was a scientifically accurate one and warned against accepting a handy name of a disease as being a correct one.

Dr. W. G. ROCKWOOD (Ceylon) believed that dysentery was a communicable disease. Ipecacuanha had failed in his hands as a means of treatment, but he had found salines efficacious along with rest in bed and rice-water as food. Liver abscess was found in a very small proportion of cases of dysentery amongst natives, but it frequently occurred amongst Europeans and he had seen it even in women.

Dr. J. H. MUSSER (Philadelphia) stated that amœbic or tropical dysentery occurred beyond the tropics, as he had seen the disease in Philadelphia, and cases had been reported from Michigan. He was firmly convinced of the value of the agglutination test as taught by Flexner, who, in the Philippines, in the West Indies, and in several of the States of America, had corroborated the value of the serum test.

Dr. EDWARD HENDERSON (late of Shanghai) said that ipecacuanha was largely, and almost solely, used in Shanghai in the "sixties," but that he believed that the majority of cases of catarrhal dysentery tended to get well and that any drug which happened to be given, such as ipecacuanha, often got the credit of bringing about a favourable issue without any justification. The old classification of dysentery into "catarrhal" and "diphtheritic" seemed to hold good at the present day, the names only, and no other features of the disease, being changed. Some form of bowel complaint always preceded cases of liver abscess in Shanghai.

Mr. JAMES CANTLIE (London) said that if treatment by salines benefited dysentery by washing away the deleterious products developed within the intestine the speediest and surest method of purifying the bowel in obstinate cases would be by opening the colon in the right flank and applying flushings directly to the colon, as had been done in gangrenous colitis. Major Rogers had described the most frequent site of amœbic abscess of the liver to be between the liver and diaphragm; this was the

abscess which he (Mr. Cantlie) had named "supra-hepatic" abscess and he had drawn attention frequently to the fact that the pus was sterile and that the amœba coli appeared early on the third day in the pus flowing from the wound. Mr. Cantlie had failed to find either clinical or post-mortem evidence of dysentery in many cases of liver abscess and he had seen some seven or eight cases of liver abscess which had developed within a few weeks of the patient arriving for the first time in the tropics, when the possibility of dysentery as a cause was totally excluded.

Dr. F. M. SANDWITH (Cairo) said that he regarded asylum dysentery and ulcerative colitis existing in non-tropical countries as quite different from the typical dysentery of the tropics. The former disease, however, probably also existed in the tropics and readily yielded to treatment. Dr. Sandwith had for many years believed that dysentery was an infectious disease and should be treated with the same precautions as typhoid fever. As regarded treatment, he had long ago renounced ipecacuanha and he used enemata of at least one litre containing alternately boric acid and sulphate of copper for acute dysentery with benefit.

Inspector-General TURNBULL, R.N., stated that he had met with three different types of dysentery in Hong-Kong—the gangrenous, the aphthous, and the catarrhal. He had operated upon three cases of liver abscess there successfully, and although the patients had remained at work in the tropics they had had no recurrence of the disease.

Dr. M. LOGAN TAYLOR, who accompanied Major Ross's expedition to Sierra Leone, read a paper on

Sanitary Work in West Africa.

The method of attempting to abolish malaria from Freetown, Sierra Leone, was by clearing the premises around houses of anything in which the larvæ of the anopheles could exist. Where the pools were small the water was simply swept out, but larger ones were treated with culicicides—either crude kerosine or crude creasote oil. These were superior to formalin, corrosive sublimate, copper sulphate, &c. If half a drachm of crude creasote was added to a pint of water in which were adult larvæ and the water was stirred up, the larvæ died in five minutes; pupæ were more resistant and would live for an hour or more. Oil applied once a week to a pool of water containing mosquito larvæ effectually prevented any larvæ ever reaching the adult stage.

Dr. GEORGE A. WILLIAMSON (Cyprus) sent a communication entitled

Bilharzia Hæmatobia in Cyprus.

Hitherto bilharzia had been described in Africa, in Mesopotamia, and in Arabia, but until the past year its presence in Cyprus was not known. Dr. Williamson's communication established the fact of its presence there without doubt, as the patient in whose urine he found the ova had never been away from the island of Cyprus.

ERRATUM.—In the report of the discussion on the Differential Diagnosis of Functional and Organic Paralysis, published in THE LANCET of August 9th, p. 375, under the remarks attributed to Dr. David Drummond, it ought to have been stated that in this gentleman's opinion certain signs (Babinski phenomenon, girdle sensation, relaxed sphincters, facial paralysis in hemiplegia, loss of knee-jerk, &c.) were for all practical purposes pathognomonic of organic disease and that he believed that marked ankle clonus was quite consistent with functional disorder.

THE ANNUAL MUSEUM.

(*Concluded from page 396.*)

IV.—SURGICAL INSTRUMENTS AND APPLIANCES.

Whilst there was a very excellent assortment of modern surgical instruments presented to view this section was more interesting than usual in regard to therapeutic appliances such as those used for the production of electric rays, ultra voilet rays, and heat rays. The accessories of the operating theatre were also well represented. In this section may also be included surgical lints, bandages, splints, and the appliances employed in the treatment of deformities. Photo-therapeutic apparatus was well illustrated in the exhibit of the Sanitas Electrical Company, of 7A, Soho-square, London, W. Here the Dermo lamp was shown in action and a number of models of various kinds of light baths were on view. Related apparatus in going order was also exhibited by M. G. Gaiffè, of 40, Rue St. André-des-Arts, Paris. A static machine with eight ebony plates of 55 centimetres diameter was employed for generating a large amount of current for the production of x rays and high-frequency phenomena. Demonstrations were given of the efficiency of the apparatus which included an induction-coil giving a spark of 40 centimetres. High-frequency apparatus after Professor D'Arsonval's design was also exhibited. Opposite to this stall the Electrical Ozone and Light Treatment, of 14, Hanover-square, London, W., exhibited a model of an actinic bath, an installation of which has recently been completed at Harrogate. The baths are combined with ozone generators and the electrodes employed for the administration of high-potential currents are of special form. Types of lupus lamps and radiant heat and light baths were shown by the Dowsing Radiant Heat Company, Limited, of 24, Budge-row, Cannon-street, London, E.C. Messrs. Harry W. Cox, Limited, of 10, 11, and 28, Cursitor-street, Chancery-lane, London, W.C., showed some special x-ray and light apparatus. Particular attention is paid to the construction of the coils to avoid a break down in the insulation. A local firm, Messrs. Mottershead and Co., of 7, Exchange-street, Manchester, showed also an excellent collection of electrical apparatus adapted for medical work, including constant and intermittent current batteries, transformers, x-ray apparatus, high-frequency apparatus, and electric motors for massage or for working drills or other purposes. The exhibit of the International Oxy-Generator Syndicate, Limited, of 21, Southampton-row, London, W.C., proved to be of interest. It consisted of a portable oxygen generator for medical purposes. A definite length of iron barrel is provided in which cakes of manganese dioxide and chlorate of potash are placed. A spirit lamp immediately under the tube serves to expel the oxygen which on its way to a collapsible gas-holder is first passed through a wash-bottle. The entire apparatus does not exceed 20 pounds in weight and its cost is £6, while the cakes for making the gas are from 2*s.* to 3*s.* 6*d.* per dozen. Coming to hospital equipment the exhibit of Messrs. John Weiss and Son, of 287, Oxford-street, London, W., occupied a very large space and was freely inspected by the visitors. The exhibit included a special operation table, anæsthetic apparatus, complete operation cases, and a large number of surgical instruments. Close by Messrs. Allen and Hanburys of Plough-court, London, E.C., exhibited a number of instruments and appliances. These included aseptic instruments, cabinets, operation tables, a nail cleaner, and sterilisers for various purposes. Of similar interest was the exhibit of surgical instruments and appliances of Messrs. James Woolley, Sons, and Co., of Victoria Bridge, Manchester. Messrs Isaac Chorlton and Co. of 17, Blackfriars-street, Manchester, exhibited a number of ingeniously constructed bedsteads adapted especially for hospital use. The exhibit also included a bed-rest, a bed-table, and an invalid spring couch. The extraordinary strength of Wood's patent wire mattress is now well known. The Longford Wire Company of Warrington exhibited models of bedsteads fitted with this mattress and also a cycle saddle made with the same wire. The Surgical Supply Association, Limited, of 35, Market-street, Manchester, is an association composed, it is stated, of a company of medical men formed on coöperative lines to supply the profession with surgical instruments and the like. The association's exhibit comprised medicine bottles, chloroform bottles, aseptic furniture, bandages, dissecting instruments, bougies, and other surgical instruments. We have already commended the petanelle preparations which have as a basis peat fibre possessing antiseptic, absorbent, and deodorant properties and therefore adapted for surgical dressings. Examples of petanelle clothing, accouchement sheets, hygienic towelines, and other fabrics made with petanelle were exhibited by Messrs. Paté, Burke, and Co., of 6, Wool Exchange, Basinghall-street, London, E.C. A number of petanelle disinfectant preparations were also shown. The goods of the Sanitary Wood Wool Company, Limited, of 26, Thavies Inn, Holborn-circus, London, E.C., are also disinfectant preparations. Wood wool is an efficient absorbent and is the basis of a number of useful preparations—as, for example, accouchement sheets, surgical pads, and the like. The Liverpool Lint Company, of Mark-street Mills, Netherfield-road, North Liverpool, exhibited specimens of splint padding, surgeons' tow, absorbent gauze tissue, and a number of special bandages. The feature of the exhibit of Messrs. Pocock Brothers, of 235, Southwark-bridge-road, London, S.E., was the universal invalid tubular

water and air bed. The bed consists of several compartments quite independent of each other, an arrangement by which obvious advantages are gained for patient, nurse, and medical man alike. Messrs. Mayer and Meltzer of 71, Great Portland-street, London, W., exhibited some novel hospital furniture in which great interest was taken. This included a patent portable surgical motor for mastoid surgery and a motor for general surgery, an operation table, and an aseptic cabinet, the exhibit including a number of special surgical instruments. Surgical instruments also were shown in great variety by Messrs. Down Brothers of 21, St. Thomas's-street, Borough, London, S.E., and a model of an aseptic operation theatre with furniture of the most recent type was very generally approved. Operation tables, glass hospital ware, surgical instruments, cabinets, and ambulance apparatus were exhibited by the Medical Supply Association of 228, Gray's Inn-road, London, W.C. The "Lawson Tait" spring bedsteads, adapted especially for hospital or invalid use, are well known and a number of appliances thus designated were shown by Messrs. George Gale and Sons of Dominion Works, Birmingham. An excellent assortment of lints, dressings, and bandages were shown by Messrs. Robinson and Sons, of Wheatbridge Mills, Chesterfield Mills, Chesterfield. Modern surgical instruments were also well represented at the stall of Messrs. W. Wood and Son, of 42 and 44, Cross-street, Manchester. The Domen Belts Company, of 456, Strand, London, W.C., exhibited its specialities, including abdominal belts, belt corsets, and suspensory belts. Besides a number of scientific instruments, including microscopes specially designed for the use of the medical student, Messrs. Thomas Armstrong and Brother of 88 and 90, Deansgate, Manchester, showed also ophthalmoscopes, retinoscopes, and laryngoscopes. Of the patent appliances for the lame made by the O'Connor Extension Company, of 2, Bloomsbury-street, London, W.C., we have already expressed a favourable opinion. The exhibit included a new support for flat-foot, the "O'Connor patent extension," which compensates for shortening of the leg and enables ordinary shoes to be worn, and a patent surgical boot with a similar object. Messrs. J. Gardner and Son, of 32, Forrest-road, Edinburgh, exhibited a large assortment of surgical and medical appliances, many of them the suggestion of the members of the Edinburgh School of Surgery, and a number of instruments and surgical dressings were also exhibited by Messrs. Billings and Sons, of Oxford-arcade, Oxford-street, Manchester. The exhibit of the Holborn Surgical Instrument Company, of 117, Holborn, London, E.C., was on a quite large scale, its catalogue comprising, it is stated, over 14,000 different instruments. The well-known manufacturers of plaisters, Messrs. William Mather, Limited, of Dyer-street, Hulme, Manchester, exhibited their specialities, including belladonna plaisters of guaranteed alkaloidal strength, surgeons' rubber adhesive plaister, and royal balsamic plaisters identical with those supplied to the army and navy at Scutari Hospital. Lastly should be mentioned the bedsteads designed for special institutions, such as small-pox and fever hospitals, made by Messrs. John and Joseph Taunton of Belgrave Works, Sherbourne-road, Birmingham. The patent "di-ag-nal" anti-sagging spring bedstead has been supplied in great numbers to the Metropolitan Asylums Board. The exhibit included an "epileptic" bedstead, a hospital cot, and a high-sided bedstead used for epileptic patients or aged people.

V.—MINERAL WATERS, BEVERAGES, &c.

Both natural and artificial waters were represented although on a somewhat small scale compared with previous years. As an example of the former may be mentioned the mineral waters of Harrogate, of Leamington, and of Friedrichshall; these are too well known to need further description. The artificial mineral water exhibits afforded a pleasing contrast to the drugs and surgical appliances. A tastefully arranged stall was that of Messrs. Jewsbury and Brown, of Ardwick Green, Manchester. The exhibit included medicated aerated waters and carbonated lime water and also koumiss. The Chemists' Aerated Mineral Waters Association, Limited, of 329, Stockport-road, Manchester, also displayed a variety of aerated waters, including lithia, potash, piperazine, and lysidine. Medical visitors were invited by these exhibitors to inspect the Manchester works. The Vichy waters were represented by Messrs. Ingram and Royle, of 26, Upper Thames street, London, E.C., as were also the table water of Ober-selters and Carlsbad waters. The Apollinaris Company of 4, Stratford-place, Oxford-street, London, W., exhibited specimens of Apenta water drawn from the natural mineral-water springs near Budapest and containing sulphate of magnesia and sulphate of soda. Specimens of Apollinaris water and Johannis water were also shown, while the use and action of a neat rubber stopper for preserving the effervescent properties of these waters in bottle after the cork has been withdrawn was demonstrated.

VI.—PUBLICATIONS.

Several well-known publishers now take advantage of the annual exhibition to bring recent medical publications to the notice of the visitors. Amongst these were Messrs. W. B. Saunders and Co. of 9, Henrietta-street, Covent Garden, London, W.C. (medical hand atlases, text-books, &c.), Messrs. Macmillan and Company of London (manuals of medicine and surgery), Messrs. Rebman, Limited, of 129, Shaftesbury-avenue, Cambridge-circus, London, W.C. (medical, surgical, and hygienic publications), Messrs. J. B. Lippincott and Co., 5, Henrietta-street, Covent Garden, London, W.C. (medical dictionary, manuals, &c.), Messrs. William Green and Sons, Edinburgh (Encyclopædia Medica and other medical works), Messrs. John Wright and Co., Bristol (the Medical Annual and the Golden Rule Series in medicine and surgery), Messrs. Baillière, Tindall, and Cox, 8, Henrietta-street, Covent Garden, London, W.C. (Medical Monograph Series, Gould's Dictionary, and atlases of anatomy and physiology).

VII.—MISCELLANEOUS.

In this section we may give a brief account of the motor-cars and other vehicles exhibited which claim some attention, since they were offered as meeting the special needs of the medical practitioner. Messrs. F. Wilkinson and Co. of 25A, Cornbrook-road, Manchester, exhibited a model of the "steamobile" with an eight horse-power engine. The oil burner is atmospheric and may be started with a match. By an automatic contrivance the fire is completely cut off when the steam pressure is up. By means of a bypass the burner is automatically lit again. The Benz Motor Car Company, of 251, Tottenham Court-road, London, W.C., showed the "Doctor's Ideal Car" and the Stirling Motor Carriages Company, Limited, of Granton-Harbour, Edinburgh, showed examples of the "Stirling auto-car" specially designed for the use of medical men, and the Gardiner-Serpollet steam carriages (94, Victoria-street, Westminster, London, S.W.) were available for trial runs up and down Oxford-street. Amongst coach-builders showing special designs of carriages for the use of medical men were Anne Cowburn of Cheetham-hill-road, Manchester; Mr. John Roberts, of Stretford-road Carriage Works, Manchester; Messrs. Slack Bros., of 44, Oxford-street, Manchester; and Messrs. Joseph Cockshoot and Co. of Newbridge-street, Manchester. Messrs. Worsnop and Co. of the Carlton Lamp Works, Halifax, exhibited a number of lamps for carriages and motor-cars, including acetylene and petroleum lamps. Mr. Richard Sibbitt of Riley-street, Coventry, showed the "doctor's bicycle," built especially for medical men. Again, the patent brougham ambulance of Messrs. Wilson and Stockall of Bury, Lancashire, is well worth attention. A recumbent patient is placed in position in the brougham through a door at the back. There are doors also at the sides with opaque windows which prevent the patient from being seen from the street though he can see into the street himself. The brougham is fitted with a stretcher and special rubber air-bed, an arrangement which is collapsible so that when the stretcher and frame are removed the brougham can be used in the ordinary way. It is convenient to mention in this section also the non-inflammable flannelette exhibited by Messrs. Whipp Bros. and Tod, Limited, of Manchester. Demonstrations were given showing the comparative non-inflammability of the fabric, whilst its softness is unimpaired. The result is obtained, we believe, by treatment with certain chemical salts. We have long recognised the necessity of rendering flannelette much less easily inflammable than it is and a word of commendation is due to these manufacturers for accomplishing that end with a distinct degree of success. Finally the exhibit of the Shannon, Limited, of 49, Moseley-street, Manchester, should be mentioned as demonstrating a system of letter-filing, &c., calculated to be of service to the busy medical practitioner.

Public Health and Poor Law.

LOCAL GOVERNMENT BOARD.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

Report on Recent Sanitary Administration in the Borough of Falmouth, by Dr. G. S. BUCHANAN.[1]—In THE LANCET of April 14th, 1900, p. 1090, we commented on reports which had been presented to the Local Government Board by Dr. Buchanan in connexion with an outbreak of enteric fever in Falmouth during 1899. In October, 1901, he made a re-inspection of the locality and now states that the town council has shown much greater activity than it did formerly in sanitary matters. The report nevertheless clearly shows that at the time at which his last inspection was made there were present all the conditions suitable for the spread of enteric fever. It would not be necessary, even if it were possible, to recapitulate all the details mentioned by Dr. Buchanan, and it must suffice to point out that the conditions of the drainage and of the water-supply are about as unsatisfactory as it would be possible for them to be. The sewers are leaky; they were not properly laid in the first place, and the deficiencies have not since been generally made good. Dr. Buchanan says: "In two streets defective portions of the sewers have been renewed. Often in making new connexions of a house drain with the sewer the joint or joints of the latter which were exposed were noticed to be leaky and have been patched up. Otherwise the sewers throughout the borough which I described as generally showing leakage on account of the clay working out of the sockets of the pipes remain in the same condition as before." There can be no reasonable doubt, therefore, that the soil is saturated with sewage. The borough is intermittently supplied with water by a company, the water is delivered from sources open to pollution and is not efficiently filtered, the service pipes in many cases were laid "in the most irregular manner with only bit-joints, there were no properly made plumber's joints." This description of the service pipes was given by Mr. C. E. Phillips, M. Inst. C.E., in a report he made at the instance of the town council of Falmouth. The result of this engineer's investigation confirmed the probability of a suggestion which Dr. Buchanan had previously made that the water was liable to pollution from insuction of fluid from the soil when the water is turned off and the mains are emptied. It is the custom to shut off the supplies on Fridays, and the pipes are often emptied by rapidly running off the water into the harbour, "thereby increasing the opportunities of insuction." The town council has manifested its activity by adopting a scheme for laying an iron intercepting sewer to an outfall beyond the outer harbour, but it does not propose to deal with the defective sewers which permeate the town. The new scheme has been submitted to the Local Government Board and it is found that amendments are desirable in certain important matters of detail. The intercepting sewer is undoubtedly wanted, but it is perfectly clear that it alone will not make Falmouth into a sanitary town. In order to accomplish this it is necessary that all defective sewers should be made good, that the domestic fittings should be efficient, that the purity of the water-supply should be ensured, and that the service pipes should be sound. In regard to the sewers it appears from Dr. Buchanan's report that most of them will have to be relaid. It is evident that the town will have to provide for the expenditure of a considerable amount of money, but fortunately at present the rates do not exceed 3*s.* in the £. From the point of view of economy alone the borough authorities would be well advised to have the necessary work done well and done at once. Falmouth is naturally a place of great beauty. In its present unhygienic state it will be avoided by all sensible people who are not obliged to live there.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

The City of London.—The night population of the City has been steadily diminishing since 1861 and at the last census it amounted only to 27,639. The birth-rate was 13·7 per 1000 for the whole registration district of the City and 8·9 per 1000 in the Allhallows and 18·1 in the St. Botolph sub-registration districts. Dr. W. Collingridge devotes much attention in his report to the subject of tuberculosis which, in consequence of the large meat markets within the City boundary, is a matter of serious moment for the corporation, more particularly so when the report for 1901 of the veterinary inspector of the City shows that of 500 cows examined after slaughter 46·8 per cent. were tuberculous. In July, 1901, the corporation adopted the voluntary notification of phthisis and agreed to pay the usual fee in respect of each case notified. The corporation has followed the example set by Kensington and other boroughs and has appointed a female sanitary inspector whose duties have now been defined by regulations approved by the Local Government Board. In connexion with the question of workshops Dr. Collingridge has drawn up a diagram to show the number of bakehouses in the City which are above or below ground. Of the total (41) seven are above ground and 34 below. During the hot weather of last year a special inspection was made of the sanitary conveniences at the 21 railway-stations within the City boundaries. In all these, save Bishopsgate, Broad-street, and Liverpool-street, serious sanitary defects were discovered and remedied. We should be glad to see an inspection of this nature extended to every station in the United Kingdom. It is within our own knowledge that a large proportion of these places are in quite a disgraceful condition. With respect to the better control of ice-creams the corporation decided to support the Bill promoted by the London County Council, provided that within the City the corporation should be the sole authority for carrying out the provisions of the Act. This is, we imagine, not quite in keeping with the scheme which the County Council have in view. The attitude of the corporation towards the County Council's milk clauses is very similar—i.e., they approve the clauses provided the City has concurrent powers with the County Council in the administration of such clauses. With regard to the condemnation of unsound food it is stated that during 1898-1900 no fewer than 31,327 tins of condensed milk, 13,180 tins of fruit, and 22,554 miscellaneous tins were destroyed, and that during 1891 265 cartloads of unsound food were similarly dealt with as trade refuse. No less than 415,510 tons of meat were delivered at the corporation markets during 1901 and of this amount 0·306 per cent. was condemned. An instructive chart relating to the supply and seizure of meat from 1877 to the present time is contained in the report before us, and there is a second chart showing the origin of meat delivered at the central markets, Smithfield, from 1896 to 1901. A somewhat remarkable seizure of the carcasses of 30 tuberculous pigs took place during the year. All these pigs had tuberculosis of the thyroid glands and some other glands were similarly involved. These pigs were part of a consignment of 74 which were purchased in the Ipswich market, and the detection of the malady reflects great credit upon Mr. Downs, the inspector who effected the seizure. We are quite in accord with Dr. Collingridge when he suggests that certain of the funds available for technical education might be usefully applied towards the spread of knowledge as to the characteristics of sound and unsound food. We fear that a large number of officers who act as meat inspectors are not sufficiently educated on this subject to allow of their doing justice either to the public or to the butchers.

St Marylebone Borough.—Mr. A. Wynter Blyth is opposed to those provisions of the County Council (General Powers) Bill which enable the officers of the London County Council to inspect dairies, either within or without the county of London, in cases where the milk is supposed to have caused the disease. Mr. Blyth is evidently in favour of the power in question being granted to the borough councils, and he expresses regret that "the London Council constantly in their policy depart from this great and essential principle of referring all details to local authorities, and evince a desire to initiate and carry out themselves the most minute detail with regard to sanitary inspection." It appears to us, however, that in an aggregation of people such as constitutes the metropolis, where the several sanitary areas are immediately contiguous, that some central control is very desirable.

Newport Borough (Mon.).—Dr. J. Howard-Jones furnishes in his current annual report a chart illustrating the death-rate from phthisis in Newport from 1862 to 1901. Such rate rose until 1871 when the downward curve commenced, which

[1] London: Eyre and Spottiswoode. 1902. No. 176.

has continued almost uninterruptedly up to the present. Phthisis is not yet notifiable in Newport, but the disinfection of rooms takes place after death from this disease. The borough of Newport has for several years taken an active share in the control of chemical preservatives in milk, &c., and it has now set a good example by adopting as a working basis the recommendations of the recent departmental committee on food preservatives.

Cornwall County Council.—This county council has not maintained the reputation for sanitary reform which it possessed in the days when Mr. Sylvanus Trevail was chairman of the sanitary committee. There is a notable falling off in the character of the reports and the one now before us affords but very little useful information; indeed, the report is practically devoted to the statistics of the county. From these we learn that phthisis is increasing instead of, as in the country generally, decreasing. It is, we think, to be regretted that the county council does not appoint a properly qualified medical officer of health who would use the valuable material at his disposal for a useful end.

St. Helens Urban District.—The infant milk dépot in this town still carries on its useful work, but Dr. F. Drew Harris is disappointed at the apathy of the public in the matter. The results, as far as they go, appear to be highly encouraging, as is indicated by the table given below:—

Year.	Number of children on books.	Death-rate per 1000 among children at depôt.	Infantile death-rate.
1899	232	103	157
1900	332	102	188
1901	282	106	175

i.e., there is apparently a saving of life of 70 per 1000 among children using the milk. The income from the sale of milk during 1901–1902 was £245 16*s.* 3*d.*, and the expenditure £402 16*s.* 3*d.* There was, therefore, a deficit to be paid for out of the rates of £157. But, as Dr. Harris observes, the cost to the town is small in comparison to the benefits which accrue.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 6785 births and 3883 deaths were registered during the week ending August 9th. The annual rate of mortality in these towns, which had been 13·9 and 14·1 per 1000 in the two preceding weeks, declined again last week to 13·6 per 1000. In London the death-rate was 13·4 per 1000, while it averaged 13·7 in the 75 other large towns. The lowest death-rates in these towns were 0·9 in Smethwick, 3·0 in Willesden, 5·5 in East Ham, 6·5 in Rotherham, 6·9 in Hornsey, 7·4 in Burnley, 7·6 in Bournemouth, and 7·7 in Swansea; the highest rates were 18·7 in Huddersfield, 18·9 in Gateshead, 19·0 in West Bromwich and in Tynemouth, 20·2 in Liverpool and in South Shields, 20·9 in Hanley, and 23·7 in Wigan. The 3883 deaths in these towns last week included 584 which were referred to the principal infectious diseases, against 476, 522, and 533 in the three preceding weeks; of these 584 deaths 186 resulted from diarrhœa, 113 from whooping-cough, 107 from measles, 81 from scarlet fever, 49 from "fever" (principally enteric), 42 from diphtheria, and six from small-pox. No death from any of these diseases was registered last week in Willesden, East Ham, Hastings, Bournemouth, Great Yarmouth, Smethwick, Warrington, Rotherham, or Swansea; in the other towns they caused the highest death-rates in Portsmouth, Bristol, Hanley, Walsall, West Bromwich, Liverpool, Bootle, Wigan, and Middlesbrough. The greatest proportional mortality from measles occurred in Bristol, Stockton-on-Tees, Gateshead, Cardiff, and Rhondda; from scarlet fever in Burton-on-Trent, West Bromwich, Birmingham, Wigan, and Middlesborough; from diphtheria in Tottenham; from whooping-cough in Portsmouth, Norwich, Hanley, Barrow-in-Furness, Huddersfield, Tynemouth, and Cardiff; from "fever" in Ipswich; and from diarrhœa in Leyton, Walsall, Stockport, Birkenhead, Liverpool, and Bootle. Of the fatal cases of small-pox registered last week four belonged to London, one to Leicester, and one to Liverpool, but not one to any other of the 76 large towns. There were 239 cases of small-pox under treatment in the Metropolitan Asylums hospitals on Saturday, August 9th, against numbers declining from 1515 to 305 on the 15 preceding Saturdays; 21 new cases were admitted during the week, against 48, 23, and 44 in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 2591, against 2377, 2486, and 2562 at the end of the three preceding weeks; 296 new cases were admitted during the week, against 333, 397, and 382 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 155, 128, and 135 in the three preceding weeks, declined again last week to 131, and were 28 below the corrected average number. The causes of 63, or 1·6 per cent., of the deaths in the 76 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Bristol, Leicester, Nottingham, and in 48 other smaller towns; the largest proportions of uncertified deaths were registered in Coventry, Liverpool, Wigan, and Blackburn.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 14·7, 15·8, and 16·6 per 1000 in the three preceding weeks, declined again to 12·9 per 1000 during the week ending August 9th, and exceeded by 0·3 per 1000 the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 12·2 in Paisley and 12·6 in Leith to 15·6 in Perth and 18·9 in Greenock. The 449 deaths in these towns included 16 which were referred to whooping-cough, 16 to diarrhœa, five to measles, four to "fever," three to scarlet fever, and two to diphtheria. In all, 46 deaths resulted from these principal infectious diseases last week, against 55 and 48 in the two preceding weeks. These 46 deaths were equal to an annual rate of 1·4 per 1000, which was 0·6 per 1000 below the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of whooping-cough, which had been 15, 13, and seven in the three preceding weeks, rose again to 16 last week, and included nine in Glasgow, two in Edinburgh, two in Paisley, and two in Leith. The deaths from diarrhœa, which had been 21 and 19 in the two preceding weeks, further declined last week to 16, of which nine occurred in Glasgow, two in Edinburgh, two in Dundee, and two in Aberdeen. The fatal cases of measles, which had been 10 and 12 in the two preceding weeks, declined again to five last week, and included three in Edinburgh. The three deaths from scarlet fever, two of which were registered in Glasgow, corresponded with the number in the preceding week. The fatal cases of "fever," which had been one and three in the two preceding weeks, further rose last week to four; while the deaths from diphtheria declined to two last week, having numbered four in each of the two preceding weeks. The deaths referred to diseases of the respiratory organs in these towns, which had been 80 and 70 in the two preceding weeks, further decreased last week to 63, but exceeded by 19 the number in the corresponding period of last year. The causes of 12, or nearly 3 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 20·2, 20·2, and 21·2 per 1000 in the three preceding weeks, declined again to 20·2 per 1000 during the week ending August 9th. During the past four weeks the death-rate has averaged 20·5 per 1000, the rates during the same period being 13·8 in London and 15·5 in Edinburgh. The 147 deaths of persons belonging to Dublin registered during the week under notice showed a decline of seven from the number in the preceding week, and included 30 which were referred to the principal infectious diseases, against 14, 15, and 29 in the three preceding weeks; of these 20 resulted from measles, four from "fever," three from diarrhœa, and one each from scarlet fever, diphtheria, and whooping-cough. These 30 deaths were equal to an annual rate of 4·1 per 1000, the death-rates last week from the same causes being 2·4 in London and 1·4 in Edinburgh. The fatal cases of measles, which had risen

from three to 18 in the six preceding weeks, further increased last week to 20. The deaths from "fever," which had been one and two in the two preceding weeks, further rose to four last week. The fatal cases of diarrhœa, which had been three and five in the two preceding weeks, declined again last week to three. The 147 deaths in Dublin last week included 31 of children under one year of age and 31 of persons aged upwards of 60 years; the deaths of infants slightly exceeded the number in the preceding week, while those of elderly persons showed a decline. Three inquest cases and two deaths from violence were registered during the week; and 57, or more than a third, of the deaths occurred in public institutions. The causes of 10, or nearly 7 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel H. Charlesworth, C.M.G., is appointed to succeed Lieutenant-Colonel W. G. Don, A.M.S (retired), at the depôt of the London Recruiting District, and Lieutenant-Colonel J. Latchford (retired) is appointed medical officer in the Dublin Recruiting District. Lieutenant-Colonel H. E. R. James is ordered to London for temporary duty in connexion with the Army Medical School and Medical Staff College. Lieutenant-Colonel C. W. S. Magrath is appointed to the North-Eastern District for duty.

Lieutenant-Colonel William S. Pratt to be Colonel. Captain G. C. Phipps is placed on temporary half-pay on account of ill-health. Dated July 6th, 1902.

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 1st Fifeshire: The undermentioned Surgeon-Captains to be Surgeon-Majors:—J. W. Moir and R. B. Graham. Supernumerary Surgeon-Captain S. Linton to be Surgeon-Major and to remain Supernumerary. 1st Kent: Surgeon-Captain R. J. Bryden to be Surgeon-Major. 2nd Kent: Surgeon-Captain J. F. Tabb to be Surgeon-Major.

Royal Engineers (Volunteers): East London (Tower Hamlets): Surgeon-Captain W. A. Dingle to be Surgeon-Major.

Rifle: 2nd Volunteer Battalion the Prince Albert's (Somersetshire Light Infantry): Surgeon-Captain C. J. Marsh to be Surgeon-Major. 2nd (Berwickshire) Volunteer Battalion the King's Own Scottish Borderers: John Paxton to be Surgeon-Lieutenant. 2nd Volunteer Battalion the South Staffordshire Regiment: Surgeon-Captain J. S. Wilson to be Surgeon-Major. 2nd Volunteer Battalion the Welsh Regiment: Surgeon-Captain J. A. Jones to be Surgeon-Major. 3rd Volunteer Battalion the Welsh Regiment. The undermentioned Surgeon-Captains to be Surgeon-Majors:—C. Downing and J. T. Thompson. 1st Wiltshire: Surgeon-Captain H. P. Tayler to be Surgeon-Major. 2nd Volunteer Battalion the Wiltshire Regiment: Surgeon-Captain H. J. Mackay to be Surgeon-Major. 5th (Deeside Highland) Volunteer Battalion the Gordon Highlanders: Alexander Cruickshank to be Surgeon-Lieutenant.

VOLUNTEER INFANTRY BRIGADES.

1st Lothian: Surgeon-Major A. D. Webster, the Queen's Rifle Volunteer Brigade, the Royal Scots (Lothian Regiment), to be Brigade-Surgeon-Lieutenant-Colonel whilst holding the appointment of Senior Medical Officer to the Brigade.

MENTIONED IN DESPATCHES.

A General Order, dated July 4th, 1902, publishing a report from Major-General C. C. Egerton, C.B., D.S.O., on the operations undertaken against the Mahsud Waziris, has been received from the Government of India, in which the following passages occur:—"Colonel G. McBride Davis, M.D., C.B., D.S.O., Indian Medical Service, Principal Medical Officer, is an officer of very great practical experience and administrative ability, to whose power of organisation it is largely due that the medical arrangements have been able to cope with the situation." "Lieutenant-Colonel W. A. Mawson, Indian Medical Service, Principal Medical Officer, Derajat District, had charge of the medical arrangements during the passive blockade and was largely responsible for these during the active operations. Before the arrival of the field hospitals he had, with scanty means, to provide for the medical needs of a number of regiments which arrived with hospitals on the relief scale, and this he did in an efficient manner. He has displayed administrative ability and rendered valuable service."

The following names of officers of the Indian Medical Service are also mentioned:—Captain W. H. Cox, Major M. A. Ker, Lieutenant H. D. Peile, and Lieutenant A. B. Fry.

THE LATE WAR IN SOUTH AFRICA.

We must, of course, be content to await the publication of the complete official history before we can arrive at correct knowledge of all the facts and circumstances connected with the war and learn the sacrifices which it has entailed. We know fairly well the sum-total of the deaths but not the number of these and of the wounded as distributed over the several engagements and as appropriated to each of them respectively. According to the War Office returns issued from the beginning of the campaign in South Africa on Oct. 11th, 1899, to the end of May, 1902, the total death casualties amounted to 22,450, of which 1080 were officers and 21,370 were rank-and-file. Of the above the deaths from sickness were 339 officers and 12,911 non-commissioned officers and men. The wounded (excluding those who died from wounds) numbered 1668 officers and 19,143 rank-and-file. These numbers only cover the war period, and to them must be added the returns of sickness and death which have since appeared in the public prints up to the present time. As regards our late enemy, the Boers, we only know approximately the total strength of the forces which they brought into the field against us—namely, from 50,000 to 100,000, according to different estimates. We have no accurate knowledge of the amount of their losses in killed and wounded and by sickness.

THE TRANSPORT SCANDALS.

The alleged overcrowding scandals on board the transports *Drayton Grange* and *Britannic* are to be much lamented. They occur most inopportunely at a time when our colonies have been doing their best to aid the mother country and helping to make the Empire something more than a geographical expression. A thorough investigation will, it is understood, be undertaken at once by a joint Imperial and Colonial commission, and we consider it premature to impute any blame or, indeed, to express any opinion beyond one of regret until the facts are known.

IMPERIAL YEOMANRY HOSPITAL FUND.

On August 11th at Devonshire House Queen Alexandra distributed medals to the staff of the Imperial Yeomanry Hospitals from South Africa.

Captain H. E. Haymes, R.A.M.C., has received the King's permission to accept and wear the decoration of the Medjidieh of the Fourth Class conferred upon him by His Highness the Khedive of Egypt, authorised by His Imperial Majesty the Sultan of Turkey, in recognition of services rendered by him to His Highness while employed in the Egyptian Army.

Correspondence.

"Audi alteram partem."

ON THE USE OF THE TERM "BLASTOMA."

To the Editors of THE LANCET.

SIRS,—That I find myself in the heart of the Rocky Mountains rather than, as I had hoped, in England, will explain the long delay in answering the letter by Dr. C. P. White which appeared in your issue of June 14th, p. 1723, and that of Dr. Herbert Snow which appeared in the *British Medical Journal*. An answer would seem necessary, for neither correspondent takes note of my main contention or appears to realise its importance. The question as to whether, other things being equal, the term "blastoma" would fittingly describe a particular group of tumours is purely academic and neither here nor there, once it is shown that the term has already been employed with a different meaning. Unless we regard the law of priority chaos results. When continental writers and readers already understand the order of conditions to be signified by this term, imagine the confusion if English

writers, following either Dr. H. Snow or Dr. White, use it in another and very much restricted sense. This is why I felt it imperative to point out that Dr. White must choose another name.

It is no valid argument to urge that Klebs's use of the term is to be forfeited because he included under the term conditions which we in general, or anyone in particular, no longer places among the true tumours—any more than it would be to propound that we must no longer employ the term "fish" to indicate the division Pisces, because in times past this comprehended whales, cuttle-fish, and, may be, lobsters, which now we place elsewhere.

Failing a permanent committee—of the International Medical Congress, for example—which should decide matters of nomenclature, if our terminology is not to become a very Babel, we have to adhere as nearly as possible to the laws of nomenclature accepted by other branches of biological science. According to those laws, so far as I understand them, it is legitimate to introduce new designations for large classes and divisions of objects, but for what correspond to genera and species no names must be introduced which have already been employed in another sense, even if in not so fitting a manner. Thus "blastoma" is excluded from being utilised as a generic name. I must disagree with Dr. White, however, as to the inappropriateness of "blastoma" as a designation for true tumours. For if, as he acknowledges, a leading characteristic of these true tumours is their capacity for independent growth within the organism—independent, that is, of the needs of the organism—it would be difficult to select a word which better expresses the idea of autonomous germination. Following Dr. White's line of argument it is open to anyone to speak of those chondromata, gliomata, &c., which originate from embryonic cell rests—from "indifferent cells"—as blastomata, leaving it for the future to determine which meaning of the term gains acceptance—his or Dr. White's or Dr. Snow's or Klebs's!

One last word with reference to the deviation pointed out by Dr. White in my nomenclature from that of Professor Klebs. As he notes, Klebs divided the blastomata, or true tumours, into the blastomata proper and the teratoblastomata or teratomata—another instance of loose nomenclature leading to confusion, for, using the same word to designate both order and class, one is never certain which is indicated save when a qualifying adjective is used. In such circumstances it is wholly lawful to select either usage of one's original authority, and, as Klebs gave the alternative names of terato-blastoma and teratoma for the one class, I selected blastoma for the other. I admit that I could with equal propriety have elected to employ blastoma as the name for the order and might have entitled the classes eublastoma and terato-blastoma respectively. This might, indeed, have been better, but I believe that I acted with correctness. I agree with Dr. White in this, that, with him, I would remove many conditions which he includes under the "progressive hypertrophies" from the category of true tumours.

I am, Sirs, yours faithfully,

Field, British Columbia, July 11th, 1902. J. GEORGE ADAMI.

MOTOR BICYCLES.

To the Editors of THE LANCET.

SIRS,—I have ridden about 2000 miles on an "Excelsior" motor bicycle since May this year and I can strongly recommend these machines to medical officers of health of rural districts and other practitioners who have long distances to cover. I have ridden my machine in all weathers and over all sorts of roads—mostly hilly. As an example: only a fortnight ago I started from my house, which is 240 feet above sea-level, and ran some 70 miles through the Peak, crossing the 1250 contour line more than once. On another occasion I took a friend in a trailer over 70 miles. To show how easy the machine is to manipulate I lent it one day to a medical neighbour. This was at three o'clock in the afternoon. In five minutes he had mastered it, and at six o'clock he returned it, having done a round of 28 miles. To appreciate the full significance of this performance I ought to add that my neighbour is a fine specimen of a man.

I find my accumulator wants recharging about every 700 miles. This costs me 9*d*. My petrol bill works out at about one-tenth of a penny per mile. The machine I have is one and a half horse-power. I have seven-inch cranks and have the machine geared for pedalling to 60 inches. The result is that if I ran short of petrol or my accumulator ran down I can remove my belt and pedal along comfortably at six miles an hour. To those of your readers who are contemplating purchasing a motor bicycle let me recommend them to peruse a few numbers of that excellent paper *Motor Cycling*. As a stimulant and a remedy for insomnia I can thoroughly recommend motor cycling for any except the most weakly; the rider must, however, be warmly clad. If any of your readers desire further information I shall be glad to give it if I can.

I am, Sirs, yours faithfully,

SIDNEY BARWISE, M.D. Lond., B.Sc., D.P.H.,
County Medical Officer of Health, Derbyshire.

County Offices, St. Mary's-gate, Derby, August 11th, 1902.

PERITYPHLITIS.

To the Editors of THE LANCET.

SIRS,—In July, 1530, Erasmus wrote to Melanchthon[1]: "I have been ill these three months—suffering, sick, and miserable. Medicine made me worse. First I had a violent pain; then came a hard swelling down my right side to the groin, gathering at last at the pit of my stomach, as if a snake had had my navel in his teeth and was coiled round the umbilicus. Shooting pangs continued so that I could neither eat nor sleep. The surgeon nearly blistered me to death; at length the tumour was cut open, sleep returned, and I was relieved. Now I crawl about feebly, but am not out of the doctor's hands." Erasmus thought himself the subject of stone in the bladder; but was this not perityphlitis? and is not this an example of an operation? He lived for six years afterwards and seemed to have had rather better health.

I am, Sirs, yours faithfully,

August 11th, 1902. O. CLAYTON JONES, M.B. Oxon.

REAPPEARANCE OF RASH AND ALL SYMPTOMS IN A CASE OF SCARLET FEVER.

To the Editors of THE LANCET.

SIRS,—A note in this week's issue of one of the medical papers has suggested to me that the publication of the following case may be interesting. On June 6th, 1899, two brothers were attacked with scarlet fever in a house where there were already four other cases. In the one to whose case these notes refer the symptoms were all well marked and in some respects severe—high temperature, loss of appetite, nausea, sore-throat, enlarged glands, profuse rash, and drowsiness amounting almost to stupor. His progress was of the usual kind; desquamation began about the same date as in the other five cases. On June 20th all the initial symptoms, even the marked stupor, were reproduced, accompanied by a temperature of 102° F. On June 21st the rash reappeared. Perhaps the most remarkable point in the recurrence was that on June 28th erythema nodosum was well marked on both legs and had probably been present in a slighter form for a few days. This subsided quickly but reappeared on July 10th and increased in severity up till July 13th. The first attack of erythema was 22 days after the appearance of the first rash, or probably its commencement may be dated as a little earlier. The second attack commenced 19 days and was most severe 22 days after the appearance of the second rash. Desquamation was complete on July 29th. Both brothers were discharged together and no infection was subsequently conveyed to others.

I am, Sirs, yours faithfully,

C. H. POWERS, L.R.C.P. Lond., M.R.C.S. Eng.

Gosforth, Cumberland, August 9th, 1902.

THE DUTIES OF A MEDICAL MAN AND THE LAW OF LIBEL.

To the Editors of THE LANCET.

SIRS,—The questions involved in the case of a married woman contracting syphilis recently referred to in your columns are of such importance that I trust I may be excused if I submit the following.

1. In the interest of the wife, the late Mr. Henry Lee drew attention to the fact that in a man who had acquired syphilis previous to marriage a urethral discharge or irritation about the penis, accompanied by an increased mucous discharge

[1] Froude's Life and Letters of Erasmus, p. 392.

from the urethra, might appear and so infect the wife with syphilis. The husband (granted that there was no freshly acquired disease on him), believing himself cured of syphilis and that his wife could not have become infected without having exposed herself to the contact of primary disease, would have no alternative but to consider that the wife had been unfaithful. "The most cruel injustice has in this way through an erroneous pathology been inflicted." In the interest, however, of the husband he goes on to state that "it sometimes, although more rarely, happens that the husband is the party who suffers from these mistakes. I have been engaged in more than one trial where the wife or her friends have sought to obtain a divorce on the ground of the husband having contracted disease after his marriage and communicated it to his wife ..... ; the whole class of cases to which I am now referring show that secondary affections of the existence of which the husband may have been unconscious at the time of his marriage may recur and be the means of imparting constitutional syphilitic disease. This may happen before impregnation, although it is much more common afterwards."[1] Pregnancy, moreover, in many cases determines syphilitic manifestations in a woman and in successive pregnancies recurring manifestations may simulate a first attack.

2. The law of libel in syphilis is remarkably strong. In all other cases of libel injury or loss to the person libelled has to be shown, but the mere fact of stating that a person has syphilis has been declared to be a libel. To quote from Dr. Blake Odgers's text-book on libel it has been decided that "he has the pox" (*simpliciter*) shall be taken to mean "he has the small-pox," but if any other words be used referring to the effect of the disease or the way in which it was caught or even the medicine taken to cure it, these may be referred to as determining which pox is meant. So that the position is that though one can mention casually the fact of anyone suffering from most diseases, if one says that he or she has syphilis an action for libel might be the result whether the statement is true or otherwise.

The legal opinion, therefore, of those who have studied the problem, and to whom I am indebted for their kind expression of views, is that publication of a wife's disease to the husband would undoubtedly be sufficient to cause an action to lie against the medical attendant at the suit of the wife. If the communication was verbal the action would be for slander, if in writing the action would be for libel. In either case the truth of what the medical men had stated—if proved by him—would be a complete defence, and even if there was an error in diagnosis it would probably be held to be "privileged" unless the plaintiff could rebut "privilege," but it would not lessen the risk to the medical attendant of an action being brought and of expense. On the one hand, therefore, an action would lie which if brought would, even if the medical man was acquitted of slander or libel, probably injure his professional prospects. On the other hand, probably no woman would face finding herself in the witness-box when a chief party in such a case. We have, however, further, the duty of the medical man "in the first place to prevent the spread of the disease" balanced by the possible accusations between husband and wife and the possibility of an action for divorce or separation in which the medical man would have to give evidence, perhaps to the injury of his professional reputation. The question naturally arises whether it would be possible so to alter the law of libel that while medical men should still be liable if they improperly divulge information obtained in the course of their practice they should yet be in a position at once to instruct any patient or wife or husband or both as to the nature of the disease with a view to prevent transmission and ensure treatment without consideration of possible consequences.

I am, Sirs, yours faithfully,

J. A. SHAW-MACKENZIE.

Grosvenor-street, W., August 7th, 1902.

CIDER AND GOUT.

To the Editors of THE LANCET.

SIRS,—My cyders, save in very exceptional cases, are never filtered, the process of natural fermentation is completed without any artificial means whatever being resorted to. I am, Sirs, yours faithfully,

Whimple, August 13th, 1902. H. WHITEWAY.

[1] Lectures on Syphilis, p. 72.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The Infirmary Site.

AT the meeting of the Manchester city council on August 6th another step was taken as to the infirmary site. Two of the streets surrounding it are narrow and already the business traffic connected with the warehouses is more than can easily be accommodated, while the tram-lines which are to be taken through them to relieve the congestion of Piccadilly will add greatly to the inconvenience already existing, for the passenger traffic is growing rapidly. These streets will serve as a by-pass and a backwater for the trams, but they will have to be widened considerably. The plans for rebuilding the infirmary were made apparently without regarding the evident necessity for widening George-street and Parker-street, which can only be done by taking what is wanted from the infirmary area. The resolution carried at the council meeting was that the improvement and building committee be requested to lay down such building lines as they think will be adequate for the future traffic of these thoroughfares. The reduction of the infirmary area thus foreshadowed would have increased the difficulty of carrying out the rebuilding scheme. The chairman of the improvement committee said it was the duty of the corporation "to take very seriously into consideration what should be done with the site in Piccadilly now that the trustees had so clearly decided in favour of the Stanley-grove site." The value of the infirmary site has been variously estimated up to £400,000. The best use it could be put to would no doubt be to have it laid out as an open space, with grass, shrubs, and flowers, in the fervent hope that with the diminution of the pall of smoke now brooding over us (supposed to be in prospect) they would grow and impart a little cheerfulness to our begrimed and dismal city. The next best would be to clear away all the present buildings and occupy a portion of the area with an art gallery and free library, the rest of the ground being left open and suitably planted. In this case a receiving hospital would have to be provided in a sufficiently central position. It remains to be seen whether the city will act up to the value of the opportunity.

The Housing Question at Eccles.

The town council of Eccles is beginning to deal with the housing question. At the meeting on August 6th the minutes of the insanitary area sub-committee, which had passed a resolution inviting plans for laying out the land comprised in the scheme sanctioned by the Eccles (housing of the working-classes) order, 1902, were adopted. Provision is to be made for the accommodation of at least 170 persons who may be displaced from their houses in the insanitary area in houses of not less than 6*s.* weekly rental. One of the members thought provision ought to be made for those who would be displaced "at rentals nearer their pockets." The order, it seems, requires that 340 persons should be provided for, and the mover stated in answer that other provision would be made. It is clear that in some parts of this until lately almost solely residential suburb there are slums of a bad type, for while in the Monton ward of the borough the infantile mortality is 94 per 1000 it is 238 per 1000 in Irwell ward. This is not to be wondered at when one sees the way in which plots of ground are covered and crowded with jerry-built tenements, either in defiance of building by-laws or in accordance with very bad ones. The rapid extension of our towns in an unsystematic, higgledy-piggledy fashion is calculated to give great trouble in the future. Medical officers of health are constantly engaged in remedying conditions which ought not to have been permitted to exist and it would not be an unprofitable employment of their energies if they were allowed, with the aid, if necessary, of architect and surveyor, to prepare for such extension in the way best suited to ensure good sanitary conditions.

Workhouse Infirmary for Stockport.

After a long period of discussion the Stockport board of guardians at their meeting on August 7th approved and adopted plans for the construction of a new workhouse infirmary at Stepping Hill. The plans were originally made for a new workhouse, but that idea being given up they have been altered so as to adapt them for a new infirmary. The estimated cost is £40,000 and the plans provide for 58 beds, with an administration block. A deputation is to be

appointed to obtain the sanction of the Local Government Board to go on with the work.

Manchester and Salford Hospital Fund.

About a fortnight ago a movement was begun for the establishment of a convalescent home in connexion with the Sunday and Saturday Hospital Fund. A conference of the committee of the fund with representatives of the local medical charities took place. The proposal came from the workpeople's branch of the fund, known as the Red Cross Society. It was thought that the establishment of a convalescent home would interest the people more deeply in the fund itself. A scheme of this kind has been successful in Birmingham and Leeds. In the former there are four such homes—one for men, two for women, and one for children—while Leeds has two. Although some provision already exists here in connexion with the infirmary and other hospitals, the District Provident Society, the Cotton Districts Convalescent Fund, and other agencies, "there is ample evidence of the great need for further accommodation." It is scarcely creditable to Manchester that the statement can be made that "the workpeople in both cities are now subscribing annually several times as much as is at present obtained here," as a result apparently of the increased interest resulting from the establishment of these homes. An appeal is being made to provide one home for men, with the hope that one for women may be provided later. A site has been offered and some donations promised. It is said that to erect, to equip, and to maintain for two years £10,000 will be required. A motion was proposed in favour of the scheme, and its supporters stated that no money would be taken from the Sunday and Saturday Fund till at least £4000 had been distributed among the medical charities. The collections of the two days generally yield about £8000, and last year a sum of £7300 was distributed. Naturally, therefore, objection was taken to the £4000 limit, and to secure uniformity an addition was made to the resolution that no money shall be taken for the convalescent home till at least £8000 had been given to the medical charities.

August 12th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Liverpool School of Tropical Medicine: Re-appointment of Major Ronald Ross.

MAJOR RONALD ROSS, C.B., F.R.S., late I.M.S., who vacated the appointment that he had held in the Liverpool School of Tropical Medicine since its foundation in order to pursue another branch of scientific research work in London, has been re-appointed to the post of Walter Myers lecturer to the school. Steps are being taken by the school to raise an endowment for a chair of tropical medicine in the new University of Liverpool (which will shortly enter upon its corporate existence) with professorial rank. The lecturership was founded in memory of the late Walter Myers, who lost his life in the service of the Liverpool School of Tropical Medicine whilst on a mission to investigate yellow fever.

Complimentary Banquet to the Duke of Northumberland by the Chairman of the Liverpool School of Tropical Medicine: Handsome Donation to the School.

The banquet given by Sir Alfred Jones, K.C.M.G., at the Adelphi Hotel on August 1st to the Tropical Diseases Section of the British Medical Association, to meet the Duke of Northumberland, K.G., was a great success. The announcement made by the host in the early part of the proceedings of the princely donation of £25,000 to the Liverpool School of Tropical Medicine by an anonymous donor was received with great applause. The speech of the Duke of Northumberland in response to the toast of his health was interesting in many ways. Alluding to the amelioration of the conditions of life in the tropics, his grace said that we had arrived at a point where the warrior, the diplomatist, and the colonist had done their part, and it now remained for science and the medical profession to step in and to do what yet remained in that direction. The bishop of the diocese (Dr. Chavasse), in proposing the toast of "Tropical Medicine," paid a flattering tribute to the unselfish work of the medical profession and said its motto appeared to be, "What we know we tell and what we have we give." Interesting speeches were also made by Dr. Patrick Manson, C.M.G., Professor Clifford Allbutt of Cambridge University, Sir William R. Kynsey, C.M.G., Sir William MacGregor, K.C.M.G. (Governor of Lagos), and Sir George Denton, K.C.M.G. (Governor of the Gambia), in support of encouraging in every possible manner the efforts of Major Ronald Ross and others in their efforts to extirpate malaria in tropical countries.

The Mosquito Plague at Ismailia: Request by the Suez Canal Company to the Liverpool School of Tropical Medicine.

Sir Alfred Jones has received an important communication from Prince d'Arenberg, the president of the Suez Canal Company, asking for the coöperation of the school in a concerted effort to cope with the prevalence of malaria in Ismailia. The company has made a formal request for the services of Major Ronald Ross to start operations against mosquitoes. The committee of the school has at once acquiesced in the request of the Suez Canal Company and is making arrangements to enable Major Ross to proceed to Ismailia in September, when malaria is especially prevalent. Major Ross will begin by an organised campaign against malaria and will go out again later in the year to carry it through.

Hospital Sunday and Saturday Funds: Grants to the Charities.

The total amount distributed by the committee of the above-mentioned funds to the various Liverpool hospitals as a result of the year's collections was £13,600. The Royal Infirmary received £2992, the Royal Southern Hospital £2040, the David Lewis Northern Hospital £1768, the Stanley Hospital £986, the Liverpool Dispensaries, £816, the Queen Victoria District Nursing Association £816, the Infirmary for Children £816, the Eye and Ear Infirmary £544, the Hahnemann Hospital £544, the Consumption Hospital £476, the Hospital for Women £408, the Ladies' Charity and Lying-in Hospital 408, St. Paul's Eye Hospital £408, the Convalescent Institution, Woolton, £340, St. George's Hospital for Skin Diseases £34, &c.

Proposed County Consumption Hospital by the Lancashire County Council: Small-pox in the County.

The special committee appointed by the Lancashire county council to consider and report to the council as to the best method of appropriating the sum of £10,000 out of the county fund for the permanent celebration of the King's Coronation reports that, after a very full consideration, it unanimously recommends that the entire sum of £10,000 should be devoted towards the establishment of an institution for the treatment of cases of phthisis arising in the administrative county. The public health committee of the Lancashire county council reports that during the month of June only four persons had been attacked by small-pox and it was hoped that the outbreak had been successfully dealt with.

Annual Meeting of the North Midland Branch of the British Dental Association.

The twenty-third annual meeting of the North Midland Branch of the British Dental Association was held at Liverpool on July 24th, 25th, and 26th, under the presidency of Mr. R. Edwards. Practical demonstrations were given by members in the Liverpool dental hospitals. The President gave a reception on July 24th and the annual dinner took place at the Adelphi Hotel on the evening of July 25th. July 26th was given over entirely to pleasure excursions. The meeting was a most successful one.

August 12th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Cardiff Seamen's Hospital.

IT is nearly 40 years since H.M.S. *Hamadryad* was moored in proximity to the Cardiff docks and fitted up as a hospital with 40 beds for the use of the seamen who frequented the port of Cardiff, and during that period 225,000 men have been treated either as in-patients or as out-patients. For more than 30 years Mr. William Hughes has acted as resident medical superintendent to the hospital. Four or five years ago it was felt that the usefulness of the institution would be very greatly increased by providing a building which should be constructed on the most modern principles and erected on land in the midst of the docks. The late Marquis of

Bute offered to give a site for the building and £5000 provided an additional £30,000 were subscribed. Upon the death of the marquis last year it was found that he had empowered his executors to contribute any sum up to £20,000 unconditionally, and the work of preparing the foundations for the building was commenced. Owing to the formation of the land this has proved both difficult and costly, 131 piers having had to be constructed, and £6000 have been expended before the actual building has been begun. The foundation-stone of the hospital was laid on August 8th by the Marquis of Bute, who has recently attained his majority and who declared it to be his intention to take a special interest in the institution. The cost of the hospital and furnishing, apart from the foundations, is estimated at £24,000.

Hereford Dispensary.

The Hereford Dispensary was established in the year 1835 and has both a charitable and a provident department. The annual report, which has recently been issued, shows that in the former department 3616 patients were treated during the year. In the provident department 428 households contributed in weekly pence £232, of which sum £162 were divided between the three medical officers and the balance was carried to the charity account and towards the working expenses of the institution.

The Death of Mr Joseph Reynolds James, L.R.C.P. Edin., M.R.C.S. Eng.

The members of the medical profession in Cardiff received the news of the death of Mr. J. R. James on August 3rd with great regret, for although he had been ailing for several months it was not anticipated that his illness would have a fatal termination. Mr. James came to Cardiff about 25 years ago, when the town was increasing in population by leaps and bounds, and has since carried on an extensive practice. At one time he took an active part in the public life of the borough and was a prominent member of the town council. He leaves a widow and five children.

Exeter City Asylum.

The fifteenth annual report of the Exeter City Asylum was presented at the meeting of the Exeter city council held on August 6th. It stated that 48 male and 25 female patients had been discharged cured during 1901 and that 19 male and 13 females had died during the same period. On Dec. 31st, 1901, there were 167 males and 205 females remaining in the institution. The maintenance rate chargeable for the Exeter patients was 11s. 6d. per week. The committee in its report mentioned that the condition of the asylum was excellent and added an appreciative remark on the manner in which the medical superintendent performed his duties.

Vaccination Expenditure.

At the meeting of the Barnstaple (Devon) board of guardians held on August 1st a discussion arose over the resolution of the metropolitan boards of guardians for the reduction of the vaccination fees. The guardians took no action in the matter, the chairman remarking that the conditions in the country, where the public vaccinator often had to travel several miles for the purpose of vaccination, were very different from those in metropolitan unions.—The Monmouth board of guardians on July 31st unanimously passed a resolution in support of the views of the metropolitan boards of guardians.

August 2nd.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Royal College of Surgeons in Ireland: a Loyal Address.

A DEPUTATION from the Royal College of Surgeons in Ireland waited on Earl Cadogan at Dublin Castle on August 12th and was introduced by the President, Mr. L. H Ormsby. The loyal address was as follows:—

To His Most Excellent Majesty Edward the Seventh of the United Kingdom of Great Britain and Ireland and of the British Dominions beyond the Seas, King, Defender of the Faith, and Emperor of India.

MAY IT PLEASE YOUR GRACIOUS MAJESTY,—We, the President, Vice-President, and Council of the Royal College of Surgeons in Ireland, beg most respectfully to offer our loyal and cordial congratulations on the auspicious occasion of the Coronation of your Majesty and of Queen Alexandra as King and Queen of Great Britain and Ireland and of the Dominions beyond the Sea. We feel pride in being the subjects of a Sovereign who has ever been foremost in all works of charity and mercy for promoting the comfort and alleviating the suffering of humanity, not only as exemplified by the lifelong interest taken in hospital extension and efficiency, but also as instanced by such movements as the housing of the working classes, the Tuberculosis Congress, and the Cancer Commission. We rejoice that the happy event of the Coronation should have an additional splendour conferred upon it by the declaration of peace in South Africa and the permanent extension of the empire. We trust the time is not far distant when Your Majesties will visit this country as Ireland's King and Queen, and we venture to express our confidence that in no part of the realm would there be a deeper feeling of gratitude and welcome. As a Royal College of Surgeons we have for over a century been responsible for the training and education of a large number of surgeons who have served, not without distinction, in Your Majesty's navy and army. We beg to assure Your Majesty of our determination to maintain the loyal and dutiful relations with your Sovereign which has always characterised the Royal College of Surgeons in Ireland. We rejoice that Your Majesty has recovered from your recent illness. Signed on behalf of the council,

LAMBERT H. ORMSBY, President.
ARTHUR CHANCE, Vice-President.
CHARLES A. CAMERON, Secretary.

Medical Expenses in the Belfast Union Workhouse.

At a meeting of the Belfast board of guardians held recently a letter was read from the Local Government Board in reference to the recent inquiry as to the alleged excessive expenditure on medicines and appliances, held by its medical inspector, Dr J. Smyth. The Board directs the guardians to convene a meeting with a view to determine whether the medicine contractors should any longer be entrusted with the contract for supplying medicines to the workhouse. It advises the guardians to impress upon their medical officers that the proper discharge of their duties involves not only skilful treatment of the sick under their charge but also the due exercise of economy in requisitioning the articles required for their patients. In addition, it is to be expected that medical officers shall possess ordinary administrative capacity and a sense of responsibility in seeing that articles obtained under their signature are really necessary and are applied to the purposes for which they are ordered. The want of control over the nurses and their wasteful extravagance point, the Local Government Board says, to a lax state of discipline in the nursing staff which, having regard to the fact that the Belfast Workhouse Infirmary has become a large and important school for training, may, if not checked, have far-reaching evil effects; and the Local Government Board requests the guardians to endeavour to provide for the proper supervision, education, and control of the nurses. As a result of the inquiry the Local Government Board concurs with the view of its inspector, Dr. Smyth, that the sum of £427 11s. was excessive, and it has accordingly disallowed recoupment from the Local Taxation (Ireland) account upon this sum. The reports of the medical inspector are to be carefully considered at a special meeting of the guardians.

The Smiley Cottage Hospital, Larne.

Early in 1901 Mr. H. H. Smiley, J.P., Drumalis, Larne, county Antrim, agreed to erect an up-to-date cottage hospital for the town of Larne; and since that time he has agreed to provide an endowment fund by contributing £5000. A good site, with a frontage of 190 feet, has been secured, the plans have been prepared and have passed the urban council, so that after a time the new and much required cottage hospital will be ready. In recognition of Mr. Smiley's princely generosity it has been decided to present him with his portrait.

The British Association.

The arrangements for the meetings of the British Association, which will begin in Belfast on Sept. 10th, are now in an advanced state and it is expected that there will be a record attendance. The buildings at Queen's College have been placed at the disposal of the local committee and will form an admirable centre for those attending this scientific reunion.

August 12th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Dr. Doyen's Anti-staphylococcic Serum.

AT the meeting of the Academy of Medicine held on July 29th Dr. Doyen showed a new serum which he has just obtained and which acts, he claims, with efficacy in pathological manifestations due to the staphylococcus pyogenes. It is specially beneficial in cases of carbuncle and boils. Dr.

Doyen has not yet made public the method of preparation but has published some results which are extremely encouraging. One injection of 10 cubic centimetres made in the thigh, for instance, is enough in the case of a boil to bring down the temperature, to do away with the pain after the lapse of an hour, and to abort the boil altogether if it has not gone on to suppuration. If suppuration is present discharge takes place very rapidly through a small orifice, no new purulent foci form, and cicatrisation is complete at the end of 24 hours. In cases of carbuncle results are remarkable and many cases have already recovered by the use of this serum together with a simple dressing moistened with some antiseptic. No incisions have been necessary. Dr. Doyen also reported recoveries in cases of acute phlebitis, notably one in which the ophthalmic vein was affected and where the cerebral sinus was already involved. Other diseases which have rapidly ameliorated under the influence of the serum are osteo-myelitis, acute tonsillitis, and septic bronchopneumonia. The action of the serum is so marked that Dr. Doyen compares it to that of the anti-diphtheritic serum of Behring and Roux.

A Statue of Pasteur.

On August 3rd a statue of Pasteur was unveiled at Dole. M. Trouillot, the Minister of Commerce, presided. The Rector of the Academy of Besançon represented the Minister of Public Instruction, M. Thureau-Dangin represented the French Academy, and Dr. Roux represented the Pasteur Institute. M. Ruffier (formerly mayor), M. Renaud (the present mayor of Dole), M. Thureau-Dangin, Dr. Roux, and M. Mollard, a deputy, gave addresses, M. Mollard drawing a parallel between Victor Hugo and Pasteur. The address of M. Trouilot was frequently interrupted by loud applause. At the conclusion of the ceremony the school children sang a cantata in honour of Pasteur and afterwards piled palm branches at the foot of the statue. In the evening a banquet was given by the municipality.

Medical Excursions to the Mineral Water Stations and Sanatoriums of France.

The medical excursion for 1902 will take place between Sept. 7th and 16th inclusive. The places to be visited are in the Vosges and Eastern France and will be taken in the following order: Vittel, Contrexéville, Martigny, Bourbonne les Bains, Luxeuil, Plombières, Gérardmer, La Schlucht, Bussang, Le Ballon d'Alsace, Salins, and Besançon. The scientific director of the excursion is, as in the three preceding years, Dr. Landouzy, professor of clinical medicine at the Paris Faculty of Medicine, and he will deliver lectures upon mineral water treatment. The railways will take any French medical man at a reduction of half price on his ticket from his place of residence to Vittel and to any foreign medical man from the place at which he shall set foot in France to Vittel. The same reduction is allowed at the end of the excursion from Besançon to the place of departure from French territory. An inclusive ticket from Vittel to Besançon costs 200 francs. It includes everything—railway tickets, carriages, board, hotel expenses, luggage charges, and tips. Those anxious to join the excursion must write to Dr. Carron, 2, Rue Lincoln, Paris. Names must be sent in by August 25th.

August 12th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Summer Work of Charity Associations of New York.

THE Children's Aid Association is one of the largest and most efficient of the associations in New York which support summer homes for poor children. The large home of this society at Bath Beach accommodates thousands of children every summer and excursions are made daily there in the season for the benefit of those who can only get a day's outing. The Working Girls' Vacation Society gives working girls in the city an opportunity of getting a little rest and recreation in the country in summer and it also sends those who need a change to the Santa Clara Home in the Adirondacks. The St. John's Guild supports three floating hospitals which daily carry children and their mothers for short trips down the bay in hot weather. Together these hospital ships give some 70,000 people a chance to breathe fresh sea air in July and August.—The Gilbert A. Robertson Home in Westchester affords whole families an opportunity to refresh themselves for a few weeks in the country.—The Association for the Improvement of the Poor has a place at Sea Breeze, Long Island, while the Edgewater Crèche, near Port Lee, has one of the prettiest and best equipped country playgrounds and recreation-places for the poor in the country.

Opinions on Appendicitis in the United States.

The illness of King Edward VII. and the operation performed upon him by Sir Frederick Treves have caused endless discussion and much newspaper correspondence by medical men of the United States with regard to appendicitis and its treatment. The American medical profession has shown great interest in the matter and heartfelt wishes for the King's recovery have been universally expressed. Eminent authorities in this country have, however, made some severely critical remarks on the procedure adopted by his medical advisers. The surgeons and physicians upon this side of the Atlantic are with singular unanimity in favour of prompt operation in all cases of appendicitis, and argue that in the case of the King the delay in operating was an error of judgment, although it must be said that the successful issue of the methods used by Sir Frederick Treves and his colleagues has to some extent silenced the advocates of immediate operation.

Committee on the Prevention of Tuberculosis.

The Charity Organisation Society of New York has formed a committee on the Prevention of Tuberculosis, consisting of Dr. E. L. Trudeau, Dr. Lederle, New York City, commissioner of health, the Hon. Horner Folks, head of the city's department of public charities, and several other members, equally well known, 11 of whom are physicians. The objects of this committee have been formulated in part as follows in a statement made by the Charity Organisation Society: (1) the promulgation of the doctrine that tuberculosis is a communicable, preventable, and curable disease; (2) the dissemination of knowledge concerning the means and methods to be adopted for the prevention of tuberculosis; (3) the advancement of movements to provide special hospital, sanatorium, and dispensary facilities for consumptive adults and scrofulous and tuberculous children among the poor; and (4) the initiation and encouragement of measures which tend to prevent the development of the various forms of tuberculous disease.

August 4th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

The Plague.

AT a meeting of the Board of Health held at Sydney on July 1st it was decided to declare Sydney free from plague, as more than 10 days had elapsed since the last case was reported. There are 16 patients suffering from the disease in the Coast Hospital but they are all recovering. As the plague has disappeared from Sydney Mr. T. A. Grieves has retired from the service of the Board of Health. At the outbreak of the first epidemic he was appointed to investigate reported cases and he has diagnosed most of the cases that have occurred, and his services and expert knowledge have elicited the warmest eulogies from Dr. Ashburton Thompson, the President, and Dr. F. Tidswell, the chief medical officer of the Board of Health. On July 1st Dr. B. B. Ham, the Public Health Commissioner for Queensland, in reply to a deputation of ship-owners, stated that as the port had been free from plague for 31 days he intended to advise that the plague regulations be rescinded.

The Friendly Society Difficulty.

At a recent largely-attended meeting of the Friendly Societies' Association of New South Wales the following motion was proposed and after a long and general discussion was carried by 20 votes to 11:—

That the Australian Natives' Association be requested to retire from the Friendly Societies' Association, as their aims and objects are inimical to the interests of the association.

This is a very severe reflection on the position of the Australian Natives' Association, and a great triumph for the medical profession in New South Wales. Leading officials of the Australian Natives' Association in Victoria commenting on the action of the friendly societies in New South Wales attribute it to jealousy, to the intimidation of the medical profession, and to the indiscretion of members of the New South Wales Australian Natives' Association in dealing with unimportant public and political questions.—In Victoria friction

has arisen between the Ancient Order of Foresters and some of the medical officers of their lodges and it has been decided to establish a medical institute for the benefit of members of friendly societies in Fitzroy, Collingwood, and Carlton, very thickly populated suburbs on the north-east of Melbourne. A constitution and rules for the institute have been drawn up. The surgeons to the institute are to devote their whole time to the members and are to be paid at the rate of £300 per annum each and £6 per annum for every 10 or proportion of 10 members over 500 registered on their lists provided that the total number shall not exceed 1000. The proposed institute was discussed by the Carlton branch of the Australian Natives' Association, but the question was not put to the vote. It was stated that the reason for establishing an institute was an attempted boycott of a lodge in Fitzroy by medical men which would have been successful but for the action of one medical man who, in spite of threats from his fellow-members of the Medical Defence Association, went to the assistance of the lodge. The facts are as follows. Court Friar Tuck, of the Ancient Order of Foresters, resolved to reduce its payment to the court surgeons from 15*s.* per annum per member to 13*s.* and gave the surgeons a month's notice to terminate existing agreements. These surgeons were all members of the Carlton, Collingwood, and Fitzroy Branch of the Medical Defence Association of Victoria, and the matter was discussed at a meeting of the branch, and the members of the branch present at the meeting decided to decline to accept the position of surgeons to the court at less than 15*s.* They also subsequently obtained promises from all the other members of the branch to do the same. Amongst those who promised was Mr. Peter Lynch of Carlton. However, when applications were called for Mr. Lynch applied and was appointed surgeon to the court at 13*s.* The secretary of the Carlton, Collingwood, and Fitzroy Branch of the Medical Defence Association accused Mr. Lynch of having acted in a manner "calculated to bring discredit on the association." The council of the Defence Association, after hearing much evidence and holding many meetings, excluded Mr. Lynch from the association. It may be observed that the reason that the members of the branch resisted the action of Court Friar Tuck was that it is one of the largest, most powerful, and wealthiest lodge in the district, having 306 members on its roll and a credit balance of over £5000, in addition to a benevolent fund, and last year paid away £9379 in medical benefits.

A New Hospital for the Northern Suburbs of Sydney.

The foundation stone of a new hospital for the northern suburbs of Sydney was laid on June 13th by the Governor of New South Wales. The institution is close to St. Leonard's railway station and when completed will contain 200 beds. The pavilion system has been adopted, running on an axial line bearing north-north-east, so that all aspects will have the sun at some time of the day. The completed scheme comprises 13 blocks, that for administrative purposes being in the centre. Each ward, to hold 20 beds, will be 92 feet six inches by 26 feet. It is proposed at first to erect two large wards and two isolation wards with a total of 44 beds. His Excellency, in replying to an address from the trustees, said that he would take the earliest opportunity of obtaining His Majesty's consent to designate the institution the "Royal North Shore Hospital."

Proposed Changes at Melbourne Hospital.

At the meeting of the committee of the Melbourne Hospital held on June 24th a conference was held with the honorary medical and surgical staff as to certain proposed changes in the method of appointment, tenure, and number of the honorary staff and the increase of the accommodation concerning which correspondence had passed between the committee and the staff. At present, as is only too notorious, the whole honorary staff is elected by the subscribers to the hospital every four years, the method of election giving rise to great scandal and being very degrading to the candidates. There is no retiring age. The work of the hospital, especially on the surgical side and as regards clinical in-truction, has greatly increased, but the number of the staff and the accommodation remain as they were originally and the buildings are out of date The completion of the new fever hospital ought to relieve the Melbourne Hospital of some of its cases and the committee proposed to erect new wards on the site of the present "tents" for infectious cases. As stated previously in these columns, the Board of Health objects to these proposals unless they embrace a scheme for the gradual rebuilding in modern style of the whole hospital. All these questions were then referred to the staff who carried the following resolutions :—

1. That the retiring age for indoor physicians be 65 and for indoor surgeons 60, but that, as regards the present indoor members, their appointment be for 13 years from expiry of present term of office in the case of those members who shall not have reached the age of 65 as indoor physicians and the age of 60 as indoor surgeons.
2. That vacancies for the indoor staff be filled by promotion from the out-patient staff by seniority according to hospital rule.
3. That vacancies in the out-patient staff be filled by the subscribers.
4. That the number of beds be increased.
5. That there be five in-patient physicians and five in-patient surgeons and that the number of the out-patient staff be the same as at present.

These were presented to the committee and explained by the chairman of the staff who pointed out that the present system of election was a scandal and militated against good work by the staff. The hospital was the clinical school of the largest medical school in Australia, and to maintain a high standard in the training of students and afford proper facilities for medical teaching the institution required remodelling, and if it did not keep abreast of the times the medical school would have to seek other institutions to carry on the clinical part of the work. The matters were adjourned for further consideration by the committee.

Women's Hospital, Melbourne.

Dr. Martell, who took the position of resident medical officer of the Women's Hospital, Melbourne, has resigned, as she found herself unable to carry out the duties single-handed. The resignation was accepted with deep regret and Dr. Martell was personally thanked for her good work. A special meeting is to be held to consider the position. The honorary staff wrote to the committee regretting that a want of agreement existed between the staff and the committee and that it was due to the fact that in professional matters their expert advice had not received the recognition from the committee which was its due. It was resolved to ask the staff to point out any instances to support its statements. The financial position of the hospital is not quite satisfactory. The receipts had fallen short of those for the previous year by £1236 and the expenditure had increased by £671. Public subscriptions had fallen off and the Government grant was less. The increased expenditure was due to the greater cost of provisions.

Sydney Hospital.

Plans for a new casualty-room and large waiting-room are being prepared for the Sydney Hospital. They are to be one-storeyed and situated at the back of the hospital, with an entrance from the Domain, and are estimated to cost about £1500.

Action by a Hospital Surgeon for Compensation for Wrongful Dismissal.

A case of some interest to the medical profession was recently tried in Sydney before Mr. Justice Owen and a jury. Dr. John Krueger Kelmar, a duly qualified medical practitioner, was appointed in May, 1901, by the committee of the Wyalong Hospital as medical officer at a salary of £8 8*s.* a month for the balance of the year 1901. According to the by-laws the committee had power in the case of gross misconduct on the part of the medical officer to discharge him without notice. By a resolution of the committee on Oct. 31st the plaintiff Kelmar was dismissed under the following circumstances. The hospital had private rooms for paying patients. In June a boy was injured at some works and at the request of his employer was placed in a private room and was there 14 weeks, during which time the committee charged 30*s.* a week for his maintenance. After the boy left Dr. Kelmar sent in an account to his employer for £44 2*s.*, pointing out the nature of the services rendered. The employer complained to the committee that the charge was unjust. The committee decided against Dr. Kelmar and dismissed him. He claimed £200. The jury decided in favour of Dr. Kelmar and awarded him £69 2*s.*, being £19 2*s.* balance of salary and £50 damages for dismissal.

Haab Electro-Magnet for the Victorian Eye and Ear Hospital.

The trustees of the Edward Wilson bequest for charitable purposes have presented the Victorian Eye and Ear Hospital with a Haab electro-magnet for the extraction of foreign metallic bodies from the eyeball.

The Right of an L.S.A. to Practise as a Pharmaceutical Chemist.

Last year reference was made to a case in which Mr. Honman, L.S.A., was charged with carrying on the business of a chemist while not registered under the Pharmacy Act. The magistrates dismissed the case, holding that it had not been proved that Mr. Honman was carrying on a chemist's business within the meaning of the Act. The secretary of the Pharmacy Board obtained an order to review the magisterial decision. The case was heard by the Chief Justice. He ruled that Mr. Honman's qualification of L.S.A. entitled him to practise as a chemist in England. By the Medical Act of 1858, which extended to Australia, medical men were entitled to practise according to their qualifications. The rights given by that Act were not cut down by the Victorian Act and a Licentiate of the Society of Apothecaries of London was entitled to carry on business as a chemist without registration under that Act. The magistrates' decision was right though their reason for it was wrong and the order to rescind was discharged with costs.

Appointments.

Dr. T. J. M. Kennedy, has been appointed port health officer at Geelong.—Mr. J. T. Brett has been appointed a member of the Medical Board of Victoria, in place of Dr. T. Rowan who has gone to South Africa.—Mr. F. M. Harricks has resigned his position as surgeon to out-patients at the Alfred Hospital, Melbourne.—Dr. W. A. Wood has been appointed lecturer on Art Anatomy to the School of Art, Melbourne.—Dr. L. G. Balfour and Mr. Farmer have been appointed anæsthetists to the Melbourne Hospital.

Obituary.

Dr. L. G. Mallam of Armidale, New South Wales, died from pneumonia on June 29th. Deceased was born in Maitland 44 years ago and went to Armidale with his father, who was a chemist, in 1865. He was educated primarily in the Armidale Public School, after which he went to Sydney and then proceeded to Edinburgh, taking the degree of M.B. in 1884. He had been practising in Armidale for 18 years and was one of the medical officers of Armidale Hospital; he was also medical officer of the Guild Lodge. He was a member of St. Peter's Cathedral Council and also of the public school board. He leaves a wife and several young children.

July 5th.

Obituary.

JAMES THOMAS WARE, F.R.C.S. ENG.

WE regret to announce the death of Mr. James Thomas Ware at his residence, Tilford, near Farnham, Surrey, on July 30th. Mr. Ware, who was born 85 years ago, was the eldest son of the late Mr. Martin Ware of Tilford and of his wife Anne, the younger daughter of the Rev. Thomas Tayler of Tilford, Surrey, and Whitlenge, Worcestershire. Both Mr. Ware's father and grandfather, Mr. James Ware, were eminent as surgeons and oculists, the latter being a Fellow of the Royal Society and one of the founders of the Medical Society of London.

Mr. Ware entered as a student at St. Bartholomew's Hospital in 1835, and subsequently became house surgeon and a governor of the hospital. He also studied at Berlin, Vienna, and Paris. While at St. Bartholomew's Hospital he took an active part in founding the Metropolitan Convalescent Institution, now so well known for its important and beneficial work carried on at Walton (Surrey), Broadstairs, and Highgate. One of his fellow students, Theodore Monro, being struck by the necessity of fresh air and proper kind of treatment for a poor girl in the hospital, whose leg had been amputated and who was about to be discharged though in a state of great weakness, consulted Mr. Ware and a few other fellow students and friends and determined to establish a home for convalescents in the country. The result was that they founded what is now known as the Metropolitan Convalescent Institution. At the time of which we are now speaking—about 60 years ago—there was no such thing in the country as a convalescent home. This institution was the first, the pioneer of the large number of these useful and beneficial homes which are now spread over the country. For many years Mr. Ware took an active part in the management of this charity as a member of the committee, and especially as one of the surgeons, and when he was unable to assist in this work he became one of its vice-presidents.

When Mr. Ware was still a young man his health failed for a time and as a consequence he relinquished the medical profession, though his knowledge and skill in it were of great use to him in after life, especially as the squire of a country village and in reference to his work as a Poor-law guardian. On retiring from the profession Mr. Ware settled on the family property at Tilford, where his unvarying kindness and wise help were highly appreciated by his neighbours. After a time he became one of the guardians of the Farnham Union and was elected chairman, in which office his ability, character, and wisdom were most valuable and much appreciated. For many years Mr. Ware was churchwarden of Tilford church, the foundation-stone of which was laid by his father. About 19 years ago Mr. Ware met with an accident to his knee from which he never recovered. For the last two years he had been confined to his bed and in the early morning of July 30th he passed peacefully away. The funeral took place on August 2nd at Tilford church and was attended by many of his neighbours, friends, and tenants. Mr. Ware was never married.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.—The following gentlemen passed the Second Examination of the Board in the subjects indicated at the last quarterly meeting of the examiners:—

Anatomy and Physiology.—John Henry Dyke Ackland and Edward Leicester Atkinson, St. Thomas's Hospital; Hugh Lowrie Askham, Middlesex Hospital; Henry Hugh Baker, B.A. Oxon., Oxford University and St. Mary's Hospital; John Bromley Ball, Guy's Hospital; Frank Gower Burgin, University College, Bristol; Richard Charles Palmer Berryman, St. Bartholomew's Hospital; Harold Bevis and Ronald Anderson Bryden, St. Mary's Hospital; George Birch, Edward John Blewitt, and Percy Arthur Bodkin, London Hospital; Wilfred Buchanan Burr, Middlesex Hospital; Laurence Henry Burner, Alfred Hollier Clough, and Albert Benjamin Cocker, Guy's Hospital; George Chaikin, B.A. Lond., University College, Sheffield; Percival Charles Coombes, Madras and University College, London; Ralph Crompton, Owens College, Manchester; Arthur George Cole and Clive Thornley Edmunds, St. Mary's Hospital; George John Eady, Richard Vernon Favell, and Charles Henry Fernie, St. Bartholomew's Hospital; William James Fletcher, Owens College, Manchester; William Hardy Fleetwood, Lawrence George Gibson, and Jonathan Grogono, London Hospital; Peter Gow, New Zealand and Middlesex Hospital; George Frederick Greening, Guy's Hospital; Samuel Lewis Graham and George James Harman, L.R.C.P. and S. Edin., University College, London; James Glenny Gitb, Frederick Gooding, and Willoughby Henwood Harvey, St. Bartholomew's Hospital; William Harrison, University College, Sheffield; Claude Sebastian van Renen Harwood, Westminster Hospital; Gilbert Heathcote, Owens College, Manchester; James Edward Hoar, London Hospital; Charles Edward Horder, King's College, London; Frederick Duke Gwynne Howell and Alfred Bakewell Howitt, B.A. Camb., St. Thomas's Hospital; Hector Lionel Howell, Charing Cross Hospital; Alfred Norman Jeans, University College, Liverpool; Rowland Phillip Lewis, Guy's Hospital; James Charles Robert Lind, University College, London; William Sherwood Livock and Arthur Harkness Macdonald, London Hospital; Walter Longley and James Ernest Middlemiss, Yorkshire College, Leeds; Walter Gerald Loughborough, Reginald Charles Pattison McDonagh, and George Stanley Morse, St. Bartholomew's Hospital; Howard Vincent Mitchell and Arnold Morris, B.A. Camb., Guy's Hospital; Leonard Newsom Morris, University College, Bristol; Richard John Mould, B.A. Camb., St. Thomas's Hospital; Reginald Goldie Newton, St. Mary's Hospital; Douglas Catterall Leyland Orton, Owens College, Manchester; William Fergus Paterson, New Zealand and Middlesex Hospital; John Sydney Pearson, London Hospital; Robert Elliot Pitts, Middlesex Hospital; John Edwin Scales, Guy's Hospital; George Henry Sedgwick, Yorkshire College, Leeds; Ernest Henry Shaw, St. Bartholomew's Hospital; Harold Sigismund Sington, St. Thomas's Hospital; Francis George Snoad, Birmingham University; Frank Montague Wilson South, Westminster Hospital; Charles Speers, St. Mary's Hospital; Frederick Thomas Turner, King's College, London; John Ronald Rigden Trist, John Samuel Williamson, and Alexander Chamier Wroughton, St. Bartholomew's Hospital; Horace Walshman Ward, Birmingham University; Alfred Gurth Whitaker, Charing Cross Hospital; Ernest White, Guy's Hospital; Arthur Cyril Charles Wright, St. Mary's Hospital; and James Montagu Wyatt, St. Thomas's Hospital.

Anatomy only.—Mr. Norman Henry Oliver, Guy's Hospital.

Physiology only.—Mr. Arthur Frank Palmer, Cambridge University and Middlesex Hospital.

FREEMASONRY.—The American Ambassador, Mr. Choate, on Friday, August 8th, unveiled at Freemasons' Hall an excellent portrait of George Washington which had been presented to the United Grand Lodge of English Freemasons by Mr. Henry S. Wellcome, an American resident in London whose name is known to members of the medical profession. The portrait, which is full length, is the work of an American artist, Mr. R. Gordon Hardie, who was at great pains to ensure the correctness of the costume and of the masonic regalia in which the most distinguished of all Americans is depicted. The Earl of Warwick, Deputy Grand Master, occupied the chair and addressed a few words of greeting to Mr. Choate, which were heartily endorsed by the large company present. Mr. Choate after unveiling the portrait gave an interesting appreciation of the character of Washington.

UNITED KINGDOM POLICE SURGEONS' ASSOCIATION.—A meeting of this association took place at Manchester on July 30th. Dr. H. W. Oulton of Dublin (Vice-President) occupied the chair. The question of the fees of medical witnesses and the attitude of the Home Office in respect thereto was discussed. Mr. Frederick W. Lowndes, M.R.C.S. Eng., of Liverpool (honorary secretary), and Mr. H. Nelson Hardy, F.R.C.S. Edin., of London (treasurer) described the nature of the evidence which they had given before the Departmental Committee of the Home Office. Criticism was also passed upon the action of the Home Office, the Home Secretary having described as "discreditable" the attitude of the medical men at Bungay who refused to examine a police case which involved their giving evidence at unremunerative rates.

IRISH MEDICAL SCHOOLS' AND GRADUATES' ASSOCIATION.—The summer general meeting of the above association was held at the Owens College, Manchester, on July 30th. In the absence of the President (Sir Philip Crampton Smyly) the chair was occupied by Dr. Richard Fegan (Blackheath). Among the other members present were Dr. P. S. Abraham (London), Mr. J. Chestnutt (Howden), Dr. W. Douglas (London), Dr. Stanley A. Gill (Formby), Dr. F. S. Gramshaw (Stillington), Mr. T. Adrian Greene (Ennis), Dr. J. Mills (Ballinasloe), Dr. A. Morton (Halifax), Dr. J. Goodwin Shea (Chesterfield), Dr. O. T. Woods (Cork), and the honorary secretaries, Mr. J. Stewart (Sneyd Park) and Dr. J. H. Swanton (London). The council reported that Wednesday, Nov. 26th, had been fixed for a banquet to be given to the Commander-in-Chief by the association at the Hotel Cecil, London, and that the Countess Roberts and the Ladies Roberts had also accepted invitations to dine with the association on that evening. The council also reported that a considerable accession to their members had been made since the annual general meeting and that there was a prospect of the total number on the roll reaching 1000 members before the date of the banquet to Earl Roberts. A vote of thanks to the council of the Owens College for the use of the room terminated the proceedings.

DURHAM UNIVERSITY COLLEGE OF MEDICINE, NEWCASTLE-UPON-TYNE.—During the last 12 months there has been a large increase in the number of specimens examined in the Bacteriological Diagnosis Department of the College of Medicine, Newcastle-upon-Tyne. Some of these examinations have been made for medical practitioners, others by special arrangements for the county councils of Northumberland and Durham, the Guisbro' combined district councils of the North Riding of Yorkshire, the town councils of Newcastle and Sunderland, and the Royal Infirmary and the Hospital for Sick Children, Newcastle. The total number of specimens examined in the laboratory during the year ending May 31st, 1902, amounts to 1009, as compared with 595 during the preceding 12 months. The different kinds of examinations carried out were as follows: 426 samples of sputum from suspected cases of phthisis were examined for tubercle bacilli, which were found in 215 cases; 238 specimens of blood were examined from suspected cases of enteric fever by Widal's method, a positive result being obtained in 103; and 228 swabs from suspected cases of diphtheria were examined for the bacilli, which were found in 99 specimens. 16 specimens of pus were examined; the pneumococcus was found in three, streptococcus pyogenes in two, staphylococcus pyogenes albus in two, staphylococcus pyogenes aureus in two, gonococcus in one, and bacillus coli communis in three. 10 samples of urine were examined for tubercle bacilli, which were found in three. Eight specimens of blood in suspected cases of anthrax were examined, positive results being obtained in six. One specimen of serum from a suspected case of malignant pustule was examined and anthrax bacilli were found. Three specimens from suspected cases of tetanus were examined with negative results. Two specimens from suspected cases of glanders were examined with negative results. Four inoculations were made from the blood of a lamb with louping-ill with negative results. Two specimens of milk were examined (one for tubercle bacilli and one for septic organisms). Four samples of ice-cream were examined, in one of which as many as 3,120,000 bacteria were found in one cubic centimetre. 70 samples of water were examined quantitatively for bacteria.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Session.

AFTER sitting for nearly seven months Parliament has adjourned until Thursday, Oct. 16th. The rule is to have prorogation about this period of the year, but it happens that the work of the session is far from completed and consequently adjournment until the autumn has been rendered necessary. It is clearly understood that the main business when Parliament reassembles will be the Education Bill and the London Water Bill, both of which measures are at present in the committee stage. So far the only legislation of special interest to the medical profession passed this year has been the Midwives Act.

HOUSE OF LORDS.

THURSDAY, AUGUST 7TH.

Sickness on Board a Transport.

Earl CARRINGTON raised the question of the alleged overcrowding of the hired transport *Drayton Grange* during her voyage from Durban to Australia and consequent sickness among her passengers who consisted of Australian troops.—The Earl of HARDWICKE intimated that the Secretary of State for War was prepared to make inquiry into the subject. He explained that the *Drayton Grange* was a cargo ship of 8000 tons. She was surveyed by the naval authorities at the Cape and passed for 40 officers and 2000 men, each man having a hammock berth and the usual hospital accommodation being provided. The principal transport officer in South Africa and the principal medical officer at Durban denied categorically that there was any overcrowding and the latter further stated that all the troops embarked in good health and that no case of infection was on board. The actual numbers embarked at Durban were 41 officers, seven warrant officers, and 1934 men. As there appeared to have been an outbreak of measles on board the necessity for extemporising isolated quarters for the patients might have led to some inconvenience.

HOUSE OF COMMONS.

TUESDAY, AUGUST 5TH.

Medical Test for Army Candidates.

Sir JOHN STIRLING-MAXWELL asked the Secretary of State for War whether he was aware that Mr. H. H. Fleming of Glasgow, a university candidate for the army, having been pronounced physically fit for a commission by a medical board in Edinburgh in July, 1900, was in October, 1901, rejected by the medical board who made the final examination for a congenital defect which was discovered and passed by the first board; and whether, in view of the fact that the inconsistency of the two boards cost Mr. Fleming 18 months of time and £200 of money, the Secretary of State would undertake that candidates would be rejected in future for congenital defects at the preliminary examination if they were to be rejected at all.—Mr. BRODRICK replied: There was no inconsistency between the reports of the two boards, as the candidate's health had become worse in the interval.

WEDNESDAY, AUGUST 6TH.

The Meal Intervals of Post Office Workers.

Sir WALTER FOSTER asked the Secretary to the Treasury, as representing the Postmaster-General, whether his attention had been called to a resolution passed by the postal and telegraph employés attached to the Birmingham Post Office protesting against the withdrawal of intervals for meals on certain divided attendances; and whether, in view of the recommendation of the medical department of the General Post Office that over-fatigue and long fasting should be carefully guarded against, he would modify the regulation so as to prevent the employés being compelled to take two meals between 2 P.M. and 4 P.M., or else undergo a fast for a period exceeding six hours daily, with the liability to be retained on duty one hour further before being permitted to partake of refreshment.—Mr. AUSTEN CHAMBERLAIN replied: The Postmaster-General has seen the resolution in question. He understands that it refers to a desire of the staff that intervals for meals should be allowed in the case of attendances not exceeding four hours in duration, such as from 10 A.M. to 2 P.M.,

followed by one from 4 P.M. to 8 P.M. In the case of duties arranged in this manner it does not appear to the Postmaster-General that any interval for meals is required. If, however, the attendance is prolonged to four and a half hours or upwards an interval of 15 or 20 minutes is given.

The Ventilation of the House of Commons.

In the course of the discussion on the Appropriation Bill MR. WYLIE called attention to the state of the atmosphere in the House on occasions when there was a large attendance of members and of the public. He insisted that it was most deleterious and that evil results followed, and he recommended the adoption of electric ventilating fans.

THURSDAY, AUGUST 7TH.

Buildings on Disused Burial Grounds.

MR. BRYCE asked the Home Secretary whether his attention had been called to several recent cases in which faculties had been granted by the Consistory Court of the diocese of London for the erection of buildings upon disused burial grounds in London; whether it was the fact that the buildings so permitted by these faculties were not enlargements of a church, but other buildings, in respect of which no exception was made to the general prohibition of the erection of buildings on such burial grounds contained in the Disused Burial Grounds Act, 1884; whether any and what steps could be taken to secure the due observance of the provisions of the last-mentioned Act in order that these open spaces might be reserved for the use of the public; or whether, if the law was defective, he would take any steps to have it amended.—MR. RITCHIE replied: I have referred to the chancellor of the diocese and am informed by him that in all cases in which he has granted faculties for the erection of buildings upon disused burial grounds he was satisfied that the buildings were enlargements of a place of worship within the meaning of the Disused Burial Grounds Act, 1884. It does not appear, on the facts before me, that an amendment of the law is required. There is a right of appeal from the Consistory Court to the Court of Arches, and thence to the Judicial Committee of the Privy Council, besides the procedure by writ of prohibition if the ecclesiastical court exceeds its jurisdiction. I may add that I understand that the chancellor of the diocese will make it a rule of court that due notice of applications for faculties of this kind shall be given to the London County Council who have powers under the Disused Burial Grounds Acts.

Hansom Cab Accidents in London.

SIR HOWARD VINCENT asked the Home Secretary if the returns of the Public Carriage Department of the Metropolitan Police afforded any information as to the number of accidents last year in hansom cabs, and if, by legislation or otherwise, some improvement could be brought about in the arrangement of the window so as to secure greater safety to the passenger and bring it, as in Manchester, under the latter's control instead of that of the driver.—MR. RITCHIE replied: The number of accidents in hansom cabs brought to the notice of the police in the course of last year (1901) was 94. Of this number 39 were caused by collisions, 43 from the horse falling, and 12 from various causes, such as the breaking of harness, from a wheel breaking, &c. In no case reported to the police does it appear that injury was caused by the arrangement of the window, and though the present vehicle is doubtless not perfect it would hardly appear that any legislation is demanded in the direction suggested in the question. If any effective substitute for the present window is suggested the Commissioner of Police would have it brought to the notice of proprietors, as is invariably done when attention is drawn to desirable improvements. The adoption of these improvements, however, is a matter for the makers and the owners of these convenient and popular vehicles, who would promptly respond to any public demand for alteration. Every care is taken to see that the licensed hansom cabs are fit for use.

FRIDAY, AUGUST 8TH.

Milk Adulteration Prosecutions.

GENERAL LAURIE asked the President of the Local Government Board whether his attention had been called to the report of the public analyst of the borough of Paddington of March 25th last in reference to the difficulties experienced by local authorities in conducting prosecutions for adulteration of milk; and whether such amendments of the law would be proposed by him as would enable local authorities to conduct such prosecutions without being penalised in costs.—MR. LONG replied: My attention has not been drawn to this report, but on receiving a copy of it I will give consideration to the matter.

Ear Trouble in the Hanwell Schools.

MR. FLOWER asked the President of the Local Government Board whether he would state what steps, if any, were being taken to carry out the suggestions in the report on Mr. A. H. Cheatle's examination of 1000 of the children at the Hanwell Poor-law Schools which had been prepared by the medical officer of the schools.—MR. LONG replied: I am informed that a committee of the managers will meet this afternoon to receive a report of the medical officer of the schools as to special treatment of the cases of ear trouble and that steps are being taken to obtain permission from the parents to operations being performed in cases in which surgical treatment is required. As I stated in reply to a question last month the children suffering from adenoids have been receiving surgical treatment.

Treatment of Feeble-minded Paupers.

LORD HUGH CECIL asked the President of the Local Government Board whether his attention had been drawn to the difficulties attending the treatment and care of feeble-minded paupers in workhouses; and whether he would consider the propriety of appointing a departmental committee to inquire and report on the matter.—MR. LONG replied: The case of the feeble-minded in workhouses has been brought before the Local Government Board and at the request of the National Association for promoting the welfare of persons of this kind my predecessor obtained some statistics which were communicated to the association. I shall be happy to consider any further representations which may be made on the subject, but I am not at present prepared to say that it would be desirable to appoint a departmental committee with regard to it.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.

BLEASE, ARTHUR TORRINGTON, M.R.C.S., L.R.C.P. Lond., M.B., Ch.B. Vict., has been appointed Senior Resident Medical Officer to St. Mary's Hospital for Women and Children, Manchester.

CLAY, DAVID LLOYD, M.R.C.S., L.R.C.P. Lond., has been appointed Public Vaccinator for the District of Otaki, New Zealand.

ELLIS, ALFRED P. B., late Captain in the Medical Department, S.A.C., has been appointed a Plague Medical Officer for the Punjab, India.

FINN, P. T., L.R.C.P. Edin., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Certifying Surgeon under the Factory Act for the Ashwick District of Somersetshire.

HARDING, NORMAN E., M.B., Ch.B. Edin., has been appointed Second House Surgeon to the East Suffolk and Ipswich Hospital.

HARVEY, ALFRED, M.B. Lond., M.R.C.S., L.S.A., has been appointed Medical Officer to the Southmead Workhouse by the Barton Regis Board of Guardians.

HOOLE, JOHN, M.R.C.S. Eng., L.S.A. Lond., has been appointed Medical Officer and Public Vaccinator to the Hartington District of the Ashbourne Union.

JENKINS, GEORGE HARRISON, L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been re-appointed Medical Officer of Health for the Usk (Mon.) District Council.

JOHNSON, HENRY SANDFORD, M.R.C.P. Irel., L.F.P.S. Glasg., has been appointed Medical Officer of Health for the Ashburton (Devon) District Council.

LAPAGE, C. P., M.B., Ch.B., has been appointed House Surgeon to the Manchester Royal Infirmary.

LOW, CHARLES, M.B., Ch.M. Edin., has been appointed Public Vaccinator for the District of Mercury Bay, New Zealand.

LUCAS, STANLEY ARTHUR, M.R.C.S., L.R.C.P. Lond., has been appointed a Public Vaccinator under the Public Health Act, 1900, for the District of Takaka, New Zealand.

MACMILLAN, J. I., M.B., M.S. Glasg., has been appointed Certifying Surgeon under the Factory Act for the Laurencekirk District.

PATON, LESLIE, B.A., M.B., B.C. Camb., F.R.C.S. Eng., has been appointed Assistant Ophthalmic Surgeon to St. Mary's Hospital, Paddington.

POWER, PATRICK JOSEPH, L.R.C.S. Irel., has been appointed Public Vaccinator for the District of Otaki, New Zealand.

SADLER, E. A., M.D. Lond., has been appointed Medical Officer of Health to the Ashbourne District Council, vice Dr. C. E. Potter, resigned.

STEWART, J. H., M.B., B.Sc. R.U.I., has been appointed Certifying Surgeon under the Factory Act for the Cruden District of Aberdeenshire.

SWEENY, W. J., M.B., B.Ch., B.A.O. R.U.I., has been appointed Deputy Medical Officer for the Thornbury District and Workhouse.

WALKER, ERNEST F. D., M.B., C.M. Glasg., has been appointed Assistant Medical Officer of the Seacliff Lunatic Asylum, New Zealand.

WHEELER, CHARLES HENRY, M.D. Q. Univ. Irel., has been appointed a Port Health Officer for the Port of Hokianga, New Zealand.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BIRMINGHAM AND MIDLAND EAR AND THROAT HOSPITAL.—House Surgeon for eight months. Salary at rate of £70 per annum.

BIRMINGHAM AND MIDLAND FREE HOSPITAL FOR SICK CHILDREN.—Resident Medical Officer. Salary £60, with board, washing, and attendance.

BIRMINGHAM GENERAL DISPENSARY.—Resident Surgeon, unmarried. Salary £150 per annum (with allowance of £30 per annum for cab hire), rooms, fire, light, and attendance.

BIRMINGHAM WORKHOUSE INFIRMARY.—Assistant Resident Medical Officer. Salary £100 per annum, with apartments, rations, &c.

BOURNEMOUTH, ROYAL BOSCOMBE AND WEST HANTS HOSPITAL.—House Surgeon. Salary £80 per annum, with board, lodging, and washing.

BRISTOL ROYAL INFIRMARY.—Junior House Surgeon and Anæsthetist, also Casualty Officer, both for six months. Salaries at rate of £50 per annum, with board, lodging, and washing.

BUCHAN COMBINATION POORHOUSE.—Medical Officer. Salary £40 a year.

BURY INFIRMARY.—Junior House Surgeon. Salary £90, with board, residence, and attendance.

CANCER HOSPITAL, London.—Pathologist. Salary £250 per annum.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria-park, E.—Second House Physician for six months. Salary at rate of £30 per annum, with board, washing, and residence.

CITY (FEVER) HOSPITAL, Aberdeen.—Resident Physician. Salary £100, with board and rooms.

CORNWALL COUNTY ASYLUM, Bodmin.—Junior Assistant Medical Officer, unmarried. Salary £130, rising to £160 by annual increments of £10, with board, furnished apartments, laundry, &c.

DENBIGHSHIRE INFIRMARY, Denbigh.—House Surgeon. Salary £100, with board, residence, and washing.

DEVONPORT, ROYAL ALBERT HOSPITAL.—Assistant House Surgeon for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

DUNDEE SANATORIUM FOR CONSUMPTION.—Medical Superintendent. Salary £250 per annum.

EDINBURGH VICTORIA HOSPITAL FOR CONSUMPTION.—Resident Physician for six months. Residence, board, and washing, with nominal honorarium.

HITCHIN THREE COUNTIES ASYLUM.—Second Assistant Medical Officer, unmarried. Salary £150 per annum, with board, apartments, washing, and attendance.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Physician, unmarried, for six months. Salary £20, with washing allowance, board, and residence.

JENNER INSTITUTE OF PREVENTIVE MEDICINE, Aldenham, Herts.—Assistant Bacteriologist, unmarried. Salary £200, with furnished rooms.

LANARK MIDDLE WARD ISOLATION HOSPITAL.—Resident Physician. Salary £140 per annum, with board, &c.

LEICESTER INFIRMARY.—Surgical Dresser for six months. Honorarium of £10 10s., with board, apartments, and washing.

LIVERPOOL, CITY OF, INFECTIOUS DISEASES HOSPITAL.—Assistant Resident Medical Officer, unmarried. Salary £120 per annum, with board, washing, and lodging.

LIVERPOOL, TOXTETH PARK WORKHOUSE AND INFIRMARY.—Resident Medical Officer. Salary £100 per annum, with board, washing, and apartments.

LIVERPOOL, VICTORIA WOMEN'S SETTLEMENT DISPENSARY.—Senior and Assistant Resident Medical Officers (Women).

LONDON HOSPITAL, Whitechapel, E.—Assistant Physician to the Skin Department.

LONDON THROAT HOSPITAL, 204, Great Portland-street, W.—Anæsthetist. Also House Surgeon.

MACCLESFIELD GENERAL INFIRMARY.—Junior House Surgeon. Salary £70 per annum, with board and residence.

MANCHESTER CHILDREN'S HOSPITAL.—Junior Resident Medical Officer, unmarried. Salary at rate of £80 a year, with board and lodging.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon, unmarried. Salary £160 per annum, with apartments, attendance, light, and fuel.

ROXBURGH DISTRICT ASYLUM, Melrose, N.B.—Assistant Medical Officer. Salary £120 per annum, with board, rooms, and washing.

ROYAL DEVON AND EXETER HOSPITAL, Exeter.—Junior Assistant House Surgeon for six months. Salary at rate of £70 per annum, with board, lodging, and washing.

ROYAL PORTSMOUTH, PORTSEA, AND GOSPORT HOSPITAL.—Assistant House Surgeon. Honorarium at rate of £50 per annum, with board, &c.

ST. BARTHOLOMEW'S HOSPITAL.—Lectureship on General Anatomy and Physiology in the Medical School of this Hospital.

ST. GILES (CAMBERWELL) WORKHOUSE, Gordon-road, Peckham.—Assistant Medical Officer. Salary £120 per annum, with apartments and allowance in lieu of board and washing.

SOUTHPORT INFIRMARY.—Resident Junior House and Visiting Surgeon, unmarried. Honorarium at the rate of £60 per annum, with residence, board, and washing.

STAFFORDSHIRE GENERAL INFIRMARY, Stafford.—Assistant House Surgeon. Salary £50 per annum, with board, lodging, and washing.

STOCKPORT INFIRMARY.—Junior Assistant House Surgeon for six months. Salary at rate of £40 per annum, with board, washing, and residence.

TADCASTER, GOOLE, RICCALL, AND SELBY RURAL DISTRICTS AND SELBY URBAN DISTRICT.—Medical Officer of Health. Salary £420 per annum.

TIVERTON, DEVONSHIRE, INFIRMARY AND DISPENSARY.—House Surgeon and Dispenser, unmarried. Salary £30 and all found.

WEST BROMWICH DISTRICT HOSPITAL.—Resident Junior House Surgeon. Salary £50 per annum, with board, lodging, washing, and attendance.

WESTON-SUPER-MARE HOSPITAL AND DISPENSARY.—Medical Officer. Salary £100 per annum, with board, lodging, and washing.

WEST RIDING ASYLUM, Wadsley, near Sheffield.—Assistant Medical Officer and Pathologist. Salary £140 per annum, rising to £160, with board, &c.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Assistant House Surgeon. Also Assistant House Physician. Appointment for six months, with honorarium at rate of £75 per annum, board, lodging, and washing.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of a vacancy as Certifying Surgeon under the Factory Act at Harrogate.

Births, Marriages, and Deaths.

BIRTHS.

ATTLEE.—On August 6th, at 58, Brook-street, London, W., the wife of John Attlee, M.D., of a son.

HASTINGS.—On August 8th, at 415, Mile End-road, E., to Edwin Birchall Hastings, M.D., and Theresa Hastings, a daughter, Anna Birchall.

HARDYMAN.—On August 11th, at Pulteney-street, Bath, the wife of George Hardyman, M.B., F.R.C.S. Edin., of a son.

HENSHAW.—On August 8th, at Priory-terrace, Kew-green, Surrey, the wife of H. W. Henshaw, M.R.C.S., L.R.C.P. Lond., D.P.H., of a daughter.

MARSHALL.—On August 7th, at Ashcroft-villas, Cirencester, the wife of Howard Marshall, M.B. Cantab., of a daughter.

DEATHS.

KELLY.—On August 5th, Charles Augustus Kelly, M.R.C.S. Eng., L.R.C.P. Edin., Civil Surgeon to H.M.'s Forces at York, age 46.

NEAL.—On August 10th, at his residence, St. Cross, Sandown, Isle of Wight, James Neal, M.D. St. And., aged 66 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

INFLUENCE OF INJECTIONS OF OXYGEN ON INFECTIOUS DISEASES.

WE have received from Dr. Ermanno Palombi of Macerata, Italy, a small pamphlet containing a preliminary announcement relative to some observations which he has made on the effects of injections of oxygen. He commences with a reference to the recent injection of oxygen into the veins of dogs by Gärtner and into the human veins by Mariani and Maragliano of Genoa. Dr. Palombi has for 10 years been occupied with this question, chiefly in the direction of supplementing impaired pulmonary respiration by means of injections of gaseous oxygen into the femoral veins, the peritoneum, or the subcutaneous cellular tissue. He also tried peroxide of hydrogen and after many experiments he succeeded in preparing an "oxygenated serum" which he found had the effect of considerably retarding and diminishing the effects produced by inoculation with various pathogenic materials, such as pus, tuberculous sputum, and diphtheritic membrane.

A CASE FOR DIAGNOSIS.

To the Editors of THE LANCET.

SIRS,—I should be deeply grateful if you or any of your subscribers would suggest some treatment which would be beneficial in the following tedious case. I have given all the ordinary drugs generally administered, but with no satisfactory or beneficial result. I have likewise given carbolic acid, creasote, and other intestinal disinfectants internally, combined with injections of boric acid solutions mixed with oatmeal water. The case in question is that of a man, aged 60 years, who has been a hard drinker for 20 years. His bowels have always been irregular, diarrhœa and constipation alternating with each other. Lately the attacks of diarrhœa have been frequent with marked tenesmus and evacuation of mucus mixed with blood. Every two or three days the patient is seized with violent griping pains and the only thing that offers relief is the above rectal enema although unaccompanied by any motion except mucus. To my mind there is no doubt that the case is one of ulcers situated at a point somewhere between the splenic flexure and anus. Any hints as to further treatment will be much appreciated. Thanking you for inserting the above,

I am, Sirs, yours faithfully,

August 12th, 1902. A SUBSCRIBER.

HYGIENE FOR HAIRDRESSERS.

"To my horror," writes a correspondent, "I discovered yesterday morning that I had a patch of ringworm at the back of my head. The only probable source of infection is a barber's shop where for about a year I have had my hair cut. It is a fairly clean and well-appointed establishment, but, so far as I am aware, no disinfection of brushes and instruments is ever attempted." The subject is one of considerable interest to medical men and we refer our readers to a brief article which appeared in our columns on Feb. 8th, 1902, p. 419. Our unfortunate correspondent is entitled to sympathy; his very disagreeable acquisition is one to which most of us are exposed through the tyranny of fashion, which has tabooed the wearing of long locks, save for spring poets. As a rule barbers regard antiseptis and disaster as convertible terms, but it ought to be possible to overcome this prejudice. The difficulty is to convince them that the antiseptic process can be carried on without excessive damage to their stock-in-trade. Steel instruments can easily be made safe by singeing in the flame of a spirit lamp; but with brushes the case is different. Immersion in an antiseptic solution brings on premature decay of the hair; while the employment of sterilised steam not only entails great expense, but also leads to the ungluеing of backs and the softening of cement. If combs and brushes entirely composed of metal were available the question of disinfection would be simplified, but so far such goods have not found favour. In the June number of the *Archives de Médecine Navale*, p. 466, Dr. Couteaud, a French naval surgeon, describes a simple method of ensuring the disinfection of hair and shaving brushes without injury to them. All that is required is a *formolateur hélios*, which consists of an alcohol vaporiser in connexion by means of a glass and rubber tube with a so-called "hygienic bucket" (*seau hygiénique*). A single "paraformic pastille," costing a trifle, gives out a formaldehyde vapour which will render the contents of the bucket perfectly sterile in about 12 hours. In order to test the trustworthiness of the apparatus Dr. Couteaud instituted a series of experiments by which he was convinced that it was scientifically perfect. If hairdressers and barbers were wise in their generation they would adopt something of the kind and place proofs of their hygienic up-to-dateness before the public. It would undoubtedly lead to a large increase in the number of their customers. In addition to the appliances already mentioned, it is possible in the same way to disinfect not only tooth and nail brushes, but also syringes, catheters and other hollow instruments that ordinarily are very hard to keep absolutely clean. The *hélios* should also prove invaluable to dentists.

THE "Y" FUND.

SURGEON-GENERAL H. S. MUIR begs thankfully to acknowledge additional donations towards the above Fund from Surgeon-Majors Beevor (Scots Guards), Rayner (Royal Horse Guards), and D. Ekum, I.M.S. (retired); Lieutenant W. M. Houston, I.M.S.; Brigade-Surgeon C. H. Browne, A.M.D. (retired); Dr. Thomas and Dr. Nash (South Africa); "A. B. C.," "D. E. F.," and "X. Y. Z." (anonymous from South Africa), and the following officers R.A.M.C.: Colonels R. Exham and H. Martin, Lieutenant-Colonels R. J. S. Simpson, E. O. Wight, and R. H. Sawyer; Majors Mathias, J. M. Nicholls, and J. Donnet; and Captains T. McDermott, Austin O'Fflahertie, W. E. Hardy, A. H. Young, and J. H. Power. The fund now amounts to £525. It may be explained that this is in response to an appeal made privately to members of the profession for benevolent aid in a distressing case which has been described in a letter sent to a limited number of medical men (who would help the cause by kindly "handing on" to *confrères*). Should any reader of THE LANCET desire further particulars with a view to expressing *practical sympathy*, a copy of the letter will be forwarded on application to Surgeon-General Muir, 26, Kensington-gardens-terrace, Hyde Park, London, W.

A SIMPLE INHALER.

To the Editors of THE LANCET.

SIRS,—I should like to bring under your notice an idea for a portable inhaler which I have found very useful. Get a common cherry-wood cigarette-holder and pack it with absorbent wool on which can be placed a few drops of creasote or eucalyptus oil or any other drug. This can be used in the street or elsewhere without attracting attention, and, furthermore, its cost need not exceed 1½d.

I am, Sirs, yours faithfully,

P. H. PARSONS, L.R.C.P. Edin.,
Late Resident Medical Officer, Manchester Chest Hospital.

August 11th, 1902.

FOREIGN MEDICAL LITERATURE.

To the Editors of THE LANCET.

SIRS,—In answer to the query of "A. C. C." regarding foreign medical literature in your issue of June 14th, I beg to inform him that medical subscription libraries exist in Germany to my knowledge: (1) M. Boas, Berlin N.W., Karlstrasse 25; and (2) Johannes Alt, Frankfurt a. M. Possibly either one or the other of these two may be able to accommodate him.

I am, Sirs, yours faithfully,

Bad Salzschlirf, August 9th, 1902. S. A. PHILIPPI, M.D.

THE BABY FARMER AGAIN.

AT the Westminster Police-court on August 12th Elizabeth Glasse was charged with neglecting nurse children and with the manslaughter of an illegitimate infant, aged eight months, at Seaton-street, Chelsea. The coroner's officer for Chelsea and an inspector of the National Society for the Prevention of Cruelty to Children said that in the room occupied by the accused they found two infants, aged respectively eight months and 12 months, partially covered with rags and chaff, infested with vermin, and ravenously hungry. Another inmate of the room was a woman suffering from the effects of alcoholism. Both this woman and the infants were removed to the Poor-law infirmary where the younger child afterwards died. Mr. Shell committed the prisoner for trial on the charge of neglect, she being already committed by the coroner for manslaughter.

MEDICAL EXAMINATIONS FOR THE CAPE MOUNTED POLICE.

To the Editors of THE LANCET.

SIRS,—Can any of your readers inform me whether it is any use for a young man suffering from secondary syphilis to go to London to pass the Medical Board for the Cape Mounted Police? or would the existence of syphilis absolutely disqualify?

I am, Sirs, yours faithfully,

August 12th, 1902. MERCURY.

THE LAW FUND.

TRUSTEES: THE PRESIDENT OF THE ROYAL COLLEGE OF PHYSICIANS OF LONDON, THE PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND, AND THE MASTER OF THE SOCIETY OF APOTHECARIES OF LONDON.

DR. R. PARAMORE writes to us as follows from 2, Gordon-square, W.C.:—"A meeting of the friends and sympathisers of Dr. W. T. Law will be held at the Holborn Restaurant, London, W.C., on Friday afternoon, August 29th, 1902. The chair will be taken by Sir William Church. The presentation of the gifts from members of the medical profession will be made to Dr. Law. In the meantime the fund will remain open for the reception of any contributions from all who are interested in the success of the movement." Dr. Paramore adds his belief that "with the exception of the case of Dr. Cullingworth, which was so generously responded to by the medical profession, no more deserving case has appeared for the universal sympathy of the profession. If the prosecution had succeeded there would have been no limit to these vexatious proceedings of actions being brought by ungrateful patients. Cheques and postal orders should be made payable to the Law Fund and crossed 'London and County Bank, Holborn, W.C.,' and sent to me, and I will most gladly acknowledge all donations, however small." The following additional subscriptions have been received by Dr. Paramore:—

	£	s.	d.
Faith, Time, and Energy	1	1	0
Dr. T. Cuming Askin ...	0	2	6
Dr. Albert J. Adkins ...	0	5	0
Dr. G. Clark Cameron ...	0	10	6
Mr. W. Pugin Thornton...	0	10	6
Mr. Benjamin Morgan Lewis	0	5	0
Mr. John Edward S. Barnett	0	5	0
Dr. Ian Donald Mackay...	0	10	6
Dr. G. Morton Wilson ...	1	1	0
Dr. B. R. Craig Christie..	0	7	6
Mr. W. John Gillespie ...	0	5	0
Mr. W. Boyle Norcott ...	1	1	0
Dr. L. E. Valentine Every Clayton	0	5	0
Dr. W. Haig	0	5	0
Dr. John Matheson... ...	0	10	6

THE REWARD OF MERIT.

THE *Westminster Gazette* of August 12th publishes the following "from the advertising columns of a provincial paper":—

A Nobleman, travelling abroad, will be glad to hear of a fully-qualified Medical Man to accompany him, who is an expert in passing a bougie into the middle ear, and the treatment of ingrowing toe-nails; terms, food and out of pockets; an M.D. preferred; evening dress and Church of England.—Address, &c.

Our contemporary has omitted to give the nobleman's address so that we cannot supply him with a free advertisement to the extent that we should like to do. In the overcrowded state of the medical profession this appointment may offer a chance not to be missed, but this largely depends on the personality of the nobleman. For though peers are technically equal, there are peers and peers. Not every M.D. can command the society of a first-class nobleman, and with "food and out of pockets" thrown in the post might be everything that a gentleman, a member of a learned profession and the possessor of a suit of dress clothes ought to expect. But it might not be such a post, and the nobleman might turn out the sort of person with whom decent people do not care to foregather. From the character of the advertisement we suspect the latter, or a hoax.

SOME VIEWS ON ANTITOXIN.

To the Editors of THE LANCET.

SIRS,—I notice that J. J. Lawrence, A.M., M.D., editor of the *Medical Brief*, in a recent issue of that journal states that antitoxin is the greatest delusion of modern times; that antitoxin contains carbolic acid, trikesol or other antiseptic, and that water solutions of these antiseptics, of the same strength as that used in preparing the serum, will produce the same effects in diphtheria; that the carbolic acid injections have been tested in several thousand hospital cases, as well as in private practice, and the results are identical with those obtained from antitoxin in the same type of cases. I should like to hear what some of your readers think of the above.

I am, Sirs, yours faithfully,

August 11th, 1902. HARLESDEN.

WHY NOT CLARET?

IN THE LANCET of July 19th, page 193, we referred to the gift of claret which the shippers of Bordeaux wines had offered to the King through King Edward's Hospital Fund for the use of patients in the London hospitals. We understand that the amount of wine really offered was 1000 dozen bottles and not 1000 bottles as we stated. Moreover, the refusal of the gift came directly from King Edward's Hospital Fund Committee and not from Lord Pembroke. We can only repeat our regret that the kind offer of the Bordeaux shippers was not accepted.

Surgeon.—Sometimes the fee is given to the substitute, sometimes it is not, and sometimes it is divided between the substitute and the patient's usual medical man. There is no definite rule in the matter and the last is probably the course to be preferred. It is well in such cases for the two medical men to refer the question to a third fellow practitioner as arbitrator, unless the matter can be brought to the attention of the ethical committee of any local medical society.

Doc. Med.—An exceptionally good man is independent of degrees and diplomas. It is always well, however, to obtain the best that are within the student's reach. The questions cannot be answered more definitely.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

During the week marked copies of the following newspapers have been received:—*Literary Digest (New York), Hong-Kong Daily Press, La Caduceo, Rivista Medica de San Paulo, Il Policlinico, Bristol Mercury, Birmingham Daily Mail, Liverpool Daily Post, Reading Mercury, Southampton Echo, Belfast News, Dublin Evening Telegraph, Coventry Herald, Scientific American, Local Government Chronicle, Manchester Guardian, Hertfordshire Mercury, Aberdeen Free Press, Echo, Times of India, Hong-Kong Weekly Press, Windsor and Eton Express, Pharmaceutical Journal, Allgemeine Medicinische Central Zeitung, Sunday Magazine, St. James's Gazette, Kensington News, Ibero-Americana de Ciencias Medicas*, &c.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (18th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.) West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (19th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.)

WEDNESDAY (20th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

THURSDAY (21st).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.) St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

FRIDAY (22nd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square, (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.).

SATURDAY (23rd).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (18th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—3.30 P.M. Dr. Saunders: Demonstration in Medical Wards.

TUESDAY (19th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Bidwell: Application of Plaster-of-Paris Splints.

WEDNESDAY (20th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Lecture:—Dr. Russell: Aphasia.

THURSDAY (21st).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—4.30 P.M. Mr. Paget: Demonstration in Surgical Wards.

FRIDAY (22nd).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—4.30 P.M. Lecture:—Dr. Abraham: Skin Cases.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

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Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

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MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. I. of 1902, which was completed with the issue of June 28th, and the Title-page to the Volume, were given in THE LANCET of July 5th.

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(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, August 14th, 1902.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Aug. 8	29·77	W.	...	112	69	59	59	62	Cloudy
" 9	30·12	W.	...	82	68	52	53	57	Cloudy
" 10	30·09	W.	0·11	101	65	54	53	55	Cloudy
" 11	30·00	N.W.	0·04	112	67	47	50	54	Cloudy
" 12	29·98	N.W.	...	109	67	51	54	57	Cloudy
" 13	29·97	S.W.	0·02	93	69	52	55	58	Cloudy
" 14	29·89	W.	...	98	72	58	60	61	Overcast

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